TYPE IV APPLICATION (LEGISLATIVE AMENDMENTS) -- 2015

OFFICE USE ONLY: (Pre-Application Conference is Optional for Type 2)
Total App. Fee: _____ File #: _____ Project Cost: _____
Less Pre-App Fee: _____ Date: _____

TYPES – PLEASE CHECK ALL THAT APPLY:

- [x] Comprehensive Plan Text Amendment
- [ ] Development Code Text Amendment
- [ ] Comprehensive Plan Map (Large Areas) Amendment
- [ ] Zoning Map (Large Areas) Amendment

APPLICANT INFORMATION:

APPLICANT: Oregon Dept. of Transportation, Region 2
ADDRESS: 885 Airport Rd. SE, Bldg. P, Salem, OR 97301-4788

GENERAL INFORMATION:

PROJECT NAME: Newberg Dundee Bypass, Phase 1G PROJECT LOCATION: Newberg, OR
PROJECT DESCRIPTION/USE: Widen Oregon 219, Springbrook Road and Wilsonville Road
MAP/TAX LOT NO.(i.e. 3200AB-400): R3221 2200 ZONE: M-2 SITE SIZE: _____ SQ. FT. ☐ ACRE: . ☐
COMP PLAN DESIGNATION: Industrial TOPOGRAPHY: Flat
CURRENT USE: Vacant
SURROUNDING USES:
NORTH: Vacant right-of-way SOUTH: Residential
EAST: Wilsonville Rd. right-of-way WEST: Oregon 219 right-of-way

SPECIFIC PROJECT CRITERIA AND REQUIREMENTS ARE ATTACHED

General Checklist:

- [x] Fees
- [x] Criteria Response
- [ ] Noticing Information
- [ ] Owner Signature/Letter of Consent
- [ ] Site Development Plan (12 reduced, 2 full sized)
- [ ] Title Report

Design Review Checklist:

- [ ] Site Analysis Diagram
- [ ] Existing Features/Natural Landscape
- [ ] Buffering/Screening
- [ ] Roadways/Utilities
- [ ] Architectural Drawings
- [ ] Drives/Parking/Circulation
- [ ] Signs/Graphics
- [ ] Traffic Study
- [ ] Landscape Plan
- [ ] Drainage
- [ ] Exterior Lighting
- [ ] Trash/Refuse Storage
- [ ] Special Needs for Handicapped

Preliminary Plat for Partition/Subdivision Checklist:

- [ ] Reproducible Final Plat (3 sets)
- [ ] Preliminary Approval Conditions
- [ ] Preliminary Plat File No.
- [ ] Phasing Plan (optional)

Minor Design Review: Duplex, Comm/Ind Checklist:

- [ ] Vicinity Map
- [ ] Landscape/Fencing Plan
- [ ] Proposed CCRs
- [ ] Tentative Plan
- [ ] Existing Features/Natural Landscape
- [ ] Traffic Study
- [ ] Architectural Drawings (optional)
- [ ] Roadways/Utilities/Drainage
- [ ] Phasing Plan (optional)

Variance Checklist:

- [ ] Landscape Plan
- [ ] Signs/Graphics

The above statements and information herein contained are in all respects true, complete, and correct to the best of my knowledge and belief. Tentative plans must substantially conform to all standards, regulations, and procedures officially adopted by the City of Newberg. All owners must sign the application or submit letters of consent. Incomplete or missing information may delay the approval process.

Kelly Amador 9-3-15
Applicant Signature Date

Kelly Amador
Print Name

Owner Signature Date

Print Name

Attachments: General Information, Fee Schedule, Criteria, Checklists

Newberg Dundee Bypass Transportation System Type IV Application (Legislative Amendments)

This document includes a description of the proposed Newberg Transportation System Plan (TSP) amendment and the criteria response for the amendment. There are no proposed text changes to the TSP, and the two figures included in this amendment request will replace those previously adopted as part of the 2013 TSP amendment.

Background

This plan amendment application is before the Newberg Planning Commission and the Newberg City Council to authorize changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection as part of Phase 1G of the Newberg Dundee Bypass Project (Bypass). In late 2013, the Newberg City Council and Planning Commission approved Ordinance No. 2013-2766 to amend the Newberg TSP to reflect the Phase 1 alignment of the Newberg Dundee Bypass in east Newberg. The TSP amendment covered connecting Wilsonville Road to the Oregon 219/Phase 1 Bypass intersection. It also included discussion of improvements to the Oregon 99W/Springbrook Road intersection, widening of Springbrook Road, widening of Oregon 219, and adding a right turn lane to Wynooski Road; these were already part of the Newberg TSP. The 2013 TSP Amendment included the number of lanes on specific roads and at improved intersections. The lane configuration on Oregon 219 has been changed during the preparation of final design plans, therefore a TSP amendment is needed to reflect the project as it will be constructed.

During the 2013 TSP Amendment approval process, the Ladd Hill Neighborhood Association (LHNA) provided written and verbal testimony against the TSP amendment to reconnect Wilsonville Road to Oregon 219 at the Phase 1 Bypass intersection. LHNA, Clackamas County, and the City of Wilsonville have expressed concerns that a through movement connection would raise the potential for increased traffic on Wilsonville Road. The group believes Wilsonville Road will be used as a new route to get to I-5 from Oregon 219 in Newberg and that the additional traffic will cause additional safety problems along Wilsonville Road between Newberg and Wilsonville..

Following approval of the TSP amendment in 2013, ODOT and LHNA have continued to investigate solutions to the LHNA concerns regarding the use of Wilsonville Road as a new route to get to I-5 from Oregon 219 in Newberg. Clackamas County and the City of Wilsonville have also continued to express similar concerns about increased traffic on Wilsonville Road to ODOT and support development of a reasonable design alternative that limits traffic on Wilsonville Road. As noted in the last TSP amendment, the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection is an interim connection that is within the footprint of the Bypass and the Oregon 219 Interchange as shown in the Newberg Comprehensive Plan and TSP. When the full Bypass and Oregon 219 Interchange are built in a future phase, Wilsonville Road will be rerouted south to connect to Oregon 219 near Wynooski Road. The Oregon 219/Phase 1 Bypass/Wilsonville Road intersection will remain in place until such time as the Bypass and the Oregon 219 Interchange are funded and constructed.

Transportation System Plan Amendment

This TSP amendment application reflects changes to the road and lane configuration of Oregon 219 north of the Springbrook Road intersection through the Wilsonville Road intersection made in the ODOT final roadway design process and changes to the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection. The changes include:

1. Remove one of the proposed southbound through lanes on Oregon 219 and remove one of the proposed southbound right turn lanes (between Springbrook Road and the Phase 1 Bypass). (See Figure 1.)

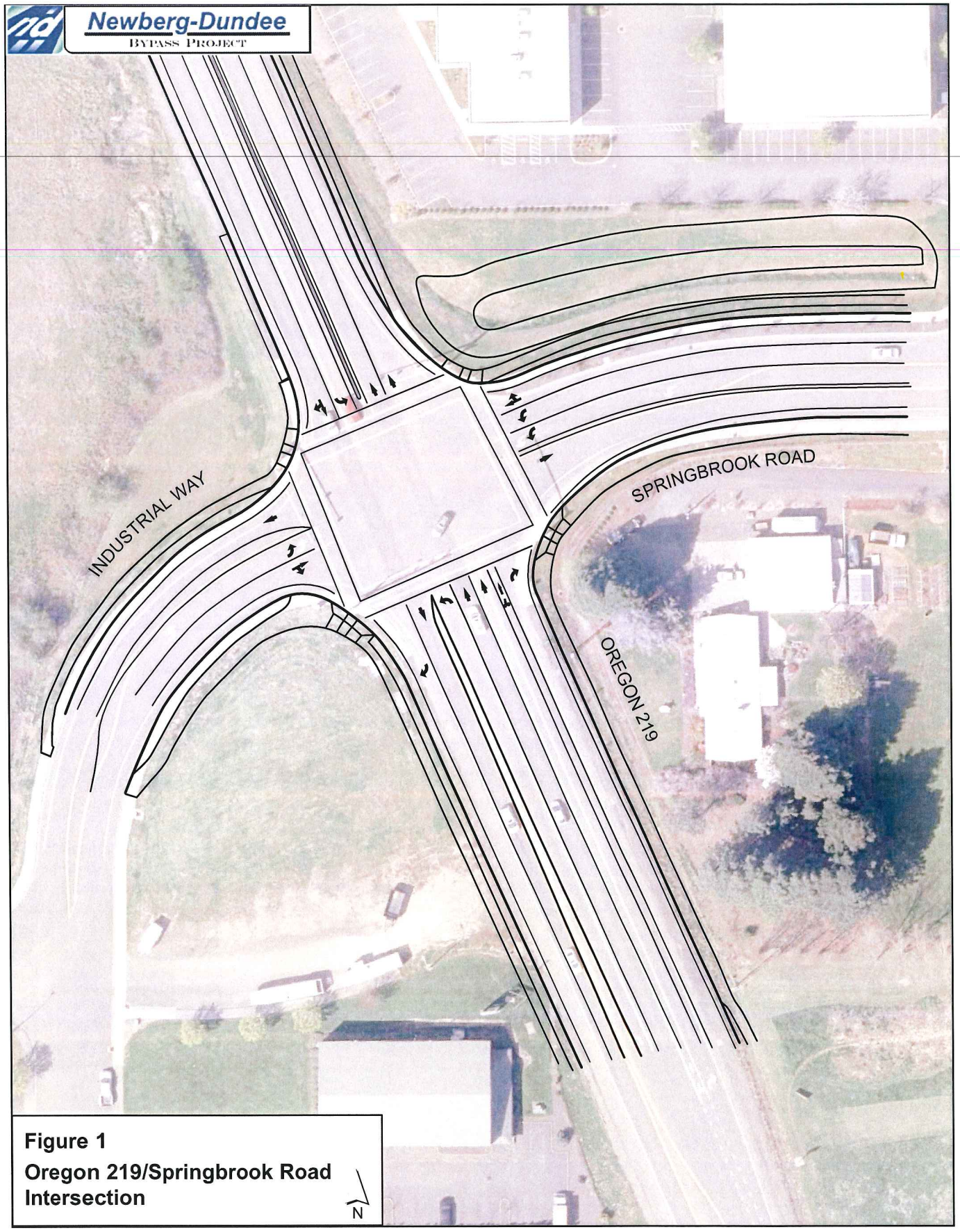


Figure 1
Oregon 219/Springbrook Road Intersection

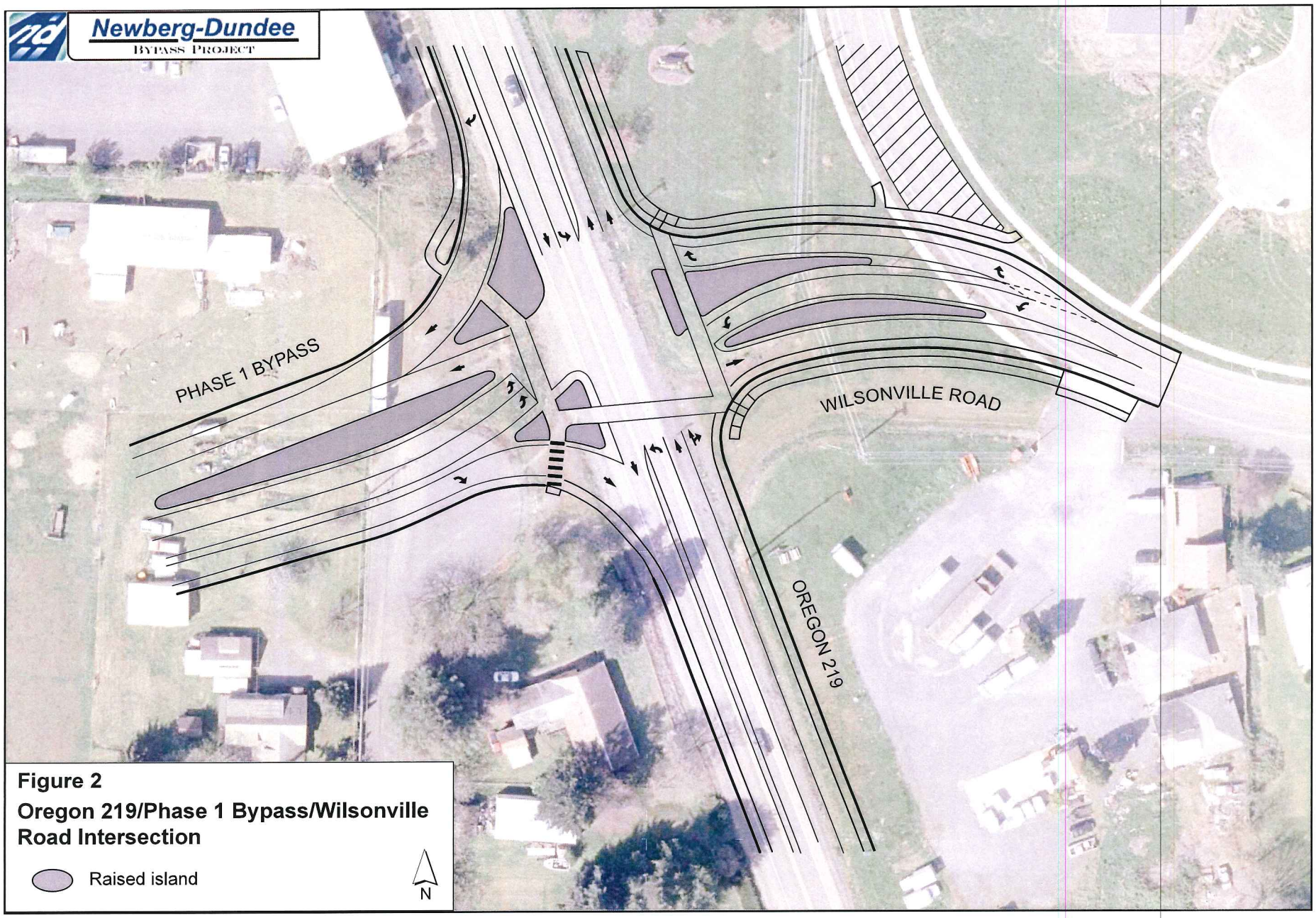


Figure 2
Oregon 219/Phase 1 Bypass/Wilsonville Road Intersection

2. Change the intersection design of the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection to a "No Thru Traffic" design. With the "No Thru Traffic" design, westbound traffic on Wilsonville Road could only turn right or left onto Oregon 219, and eastbound traffic on the Phase 1 Bypass could only turn right or left onto Oregon 219. (See Figure 2.)

Removal of Southbound Through Lane and One Right Turn Lane on Oregon 219

During the final design process, ODOT reviewed all roadway lane and design configurations presented in the Final EIS Preferred Alternative to make sure all design and operational standards and practices were adhered to and followed. ODOT final design staff reviewed the intersection design and lane configuration on Oregon 219 between Springbrook Road and the Phase 1 Bypass/Wilsonville Road. Traffic safety concerns were identified due to the substandard merge and weave distance (about 1000 feet) between the two intersections. These concerns centered on Springbrook Road southbound traffic turning left onto Oregon 219 from the dual left turn lanes being in the correct lane to enter the Phase 1 Bypass or continue south on Oregon 219. ODOT's analysis showed that with two through lanes and two left turn lanes, vehicles could get trapped in the wrong lane and have to make multiple merges to get into the correct lane. There is not enough distance between the two intersections to perform these movements safely. The solution was to remove one southbound travel lane and right turn on Oregon 219, create a dedicated right turn lane onto the Phase 1 Bypass, and direct left-turning vehicles into the correct left turn lane with signage further north on Springbrook Road.

As the new Oregon 219 lane configuration was developed, a traffic analysis was performed to understand how reducing the number of lanes affected the traffic performance of the Oregon 219/Springbrook Road intersection. The Oregon Highway Plan (OHP) volume to capacity performance standard of this existing intersection is 0.80. The volume to capacity ratio of the revised intersection design is 0.94 in the opening year of the Phase 1 Bypass. The performance of the intersection exceeds the ODOT performance standard by about 10 percent. The higher volume to capacity ratio is a result of increased travel demand on the Oregon 219 southbound approach to the Oregon 219 intersection with Springbrook (see Attachment A).

ODOT evaluated trade-offs between traffic operations and safety relative to the intersection mobility performance standard. ODOT decided that traffic operation and safety concerns were more important to address in the intersection design than the performance standard of the intersection. The June 16, 2015, Traffic Signal Approval letter (see Attachment A) states that "These modifications are part of the Newberg – Dundee By-pass Project (ODOT Key No. 17099). They are necessary to accommodate traffic routed over Springbrook Road as an interim segment of the Bypass until such time in the future the final east phase of the bypass is constructed." The revised intersection design also reduced right-of-way impacts along Oregon 219 and reduced the overall cost of Phase 1G. The original design with two southbound through lanes and two southbound right turn lanes would have caused a number of business displacements and/or building modifications in the industrial park west of Oregon 219 between the Springbrook Road and Phase 1 Bypass/Wilsonville Road intersections.

Phase 1 Bypass/Wilsonville Road at Oregon 219 Intersection "No Thru Traffic" Design

Following approval of the TSP amendment in 2013, ODOT and LHNA have continued to investigate solutions to the LHNA concerns regarding Wilsonville Road. In early 2015, ODOT and LHNA developed a "No Thru Traffic" design for the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection. With the "No Thru Traffic" design, westbound traffic on Wilsonville Road could only turn right or left onto Oregon 219 and eastbound traffic on the Phase 1 Bypass could only turn right or left onto Oregon 219. No direct traffic movements between the Phase 1 Bypass and Wilsonville Road would be allowed with the redesigned intersection. ODOT and LHNA have designed the "No Thru Traffic" to stay within existing right of way and meet ODOT design standards. Channelization of the intersection is achieved by adding a number of raised medians and islands to the intersection design.

A traffic analysis was preformed to understand the traffic performance of "No Thru Traffic" design. The ODOT volume to capacity performance standard of this intersection is 0.65. The performance standard reflects the requirements in the ODOT Highway Design Manual (HDM) for new intersections added to the state highway system. The volume to capacity ratio of the "No Thru Traffic" design is 0.67 in the opening year of the Phase 1 Bypass. If the intersection was in place today, the OHP volume to capacity performance standard would be 0.80. While the "No Thru Traffic" design slightly exceeds the HDM performance standard, it is well within the OHP performance standard in 2017, the opening year of the Phase 1 Bypass. The intersection performance analysis is attached (see Attachment B).

In conclusion, ODOT requests approval of a TSP amendment to enable construction of the Phase 1 Bypass modifications described herein. ODOT will work with the City after completion of the Newberg TSP update to address the performance standards at the Oregon 219 intersections with both Springbrook and Wilsonville Roads and at several other state highway intersections elsewhere within Newberg that are not expected to meet the current OHP mobility standards in 2035. Following City adoption of the updated TSP, ODOT will prepare a package of alternative mobility standards to submit to the Oregon Transportation Commission (OTC) for adoption into the OHP. This change in the OHP will establish new mobility performance standards that match ODOT's and the City's expectations for transportation system performance in 2035. These expectations will be based on local and regional population and employment growth forecasts and implementation of the transportation system improvements that are identified in the updated TSP as reasonably likely to be constructed during the 20-year planning horizon given existing and anticipated funding constraints.

ODOT commits, with the City's assistance, to continue, to monitor the performance of the local street network along the Bypass route. If deficiencies above the anticipated impact of this amendment are identified, ODOT further commits to pursuit of a project as appropriate mitigation for that impact.

Consistency with Statewide Planning Goals, City of Newberg Comprehensive Plan, and Newberg Transportation System Plan

Statewide Planning Goals

The proposed TSP and related Comprehensive Plan map amendments are consistent with all applicable Statewide Planning Goals.

The goals identified below are the only Statewide Planning Goals applicable to the changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection. Goals not identified do not apply.

A. Goal 1 (Citizen Involvement)

Goal 1 requires the opportunity for citizens to be involved in all phases of the planning process. Generally, Goal 1 is satisfied when a local government follows the public involvement procedures set out in its acknowledged comprehensive plan and land use regulations.

The City of Newberg Comprehensive Plan requires the city maintain a Citizen Involvement Program that offers citizens the opportunity for involvement in all phases of the planning process. Compliance with these regulations results in compliance with Goal 1.

B. Goal 2 (Land Use Planning), Part I

Goal 2, Part I requires that actions related to land use be consistent with acknowledged comprehensive plans of cities and counties. It is specifically noted that the City of Newberg updated the Comprehensive Plan to include the Newberg Dundee Bypass and Phase 1 realignment of Wilsonville Road.

Goal 2, Part I also requires coordination with affected governments and agencies, evaluation of alternatives, and an adequate factual base. In developing the changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection, ODOT engaged in coordination efforts with planners, officials, and other representatives of Newberg through review of ODOT Final Design plan sets at the Design Acceptance Package (30%), Preliminary Plan (60%), and Advanced Plan (90%) phases.

E. Goal 5 (Open Spaces, Scenic and Historic Areas, and Natural Resources)

Goal 5 requires local governments to adopt programs to protect natural resources and conserve scenic, historic, and open space resources for present and future generations as provided in the Oregon Department of Land Conservation and Development's Goal 5 administrative rule, OAR 660, Division 23.

Under OAR 660-023-0250(3)(b), local governments are not required to apply Goal 5 in post-acknowledgment plan amendment proceedings unless the amendment affects a Goal 5 resource to allow new uses that could be conflicting uses with a particular significant Goal 5 resource site. The changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection do not impact any resource sites inventoried and designated as significant under Goal 5. Therefore, Goal 5 does not apply.

F. Goal 6 (Air, Water and Land Resources Quality)

Goal 6 addresses the quality of air, water, and land resources. In the context of a comprehensive plan amendment, a local government complies with Goal 6 by explaining why it is reasonable to expect that the proposed uses authorized by the plan amendment will be able to satisfy applicable federal and state environmental standards, including air and water quality standards. The changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection will not affect air quality in Newberg and will impact water resources by adding a smaller amount of impervious surface to the watershed area than the 2013 TSP amendment.

The changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection are necessary to ensure safe and efficient traffic operation in the first step (Phase 1) of implementing the Bypass project. The Bypass project is an approved project in the City of Newberg's acknowledged TSP and Comprehensive Plan and will improve air quality by substantially relieving traffic congestion in Newberg. Water quality impacts will be mitigated by stormwater treatment facilities included in Phase 1G. This amendment will facilitate implementation of Phase 1 and is consistent with the City's TSP and Comprehensive Plan findings of compliance with Goal 6.

H. Goal 8 (Recreational Needs)

Goal 8 provides for local governments to meet the recreational needs of the citizens of Oregon. The Bypass project, including the changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection, will further Goal 8 objectives by improving access to recreational destination areas such as the Oregon coast, Yamhill County wineries, and the Spirit Mountain Casino. The proposed road realignment will not impact existing park or recreational lands.

I. Goal 9 (Economic Development)

Goal 9 requires local governments to adopt comprehensive plans and policies that "contribute to a stable and healthy economy in all regions of the state." The City of Newberg's Comprehensive Plan has been acknowledged to comply with Goal 9. The Phase 1 Bypass project, including the changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville

Road intersection will improve mobility and accessibility generally, and freight movement in particular, throughout the Newberg-Dundee urban area, thus resulting in substantially reduced congestion and fewer hours of delay.

J. Goal 10 (Housing)

Goal 10 applies inside urban growth boundaries. The changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection is within land zoned as medium-density residential and industrial and there are no impacts to housing. Therefore, this action is consistent with Goal 10.

L. Goal 12 (Transportation)

Goal 12 requires local governments to "provide and encourage a safe, convenient, and economic transportation system." Goal 12 is implemented through the Transportation Planning Rule (TPR), OAR 660, Division 12. The Newberg Dundee Bypass Project is an approved project in the City of Newberg's acknowledged TSP. The changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection reflect final design decisions that are necessary to address traffic operation and safety to implement Phase 1G of the project. The TPR addresses project development activities. Changes in the number of travel lanes and intersection performance standards are not land use decisions. The changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection are consistent with Goal 12 and with the TPR requirements. ODOT will address intersection performance on Oregon 219 by application of alternative mobility standards as part of Newberg TSP update process.

M. Goal 13 (Energy Conservation)

Goal 13 directs cities and counties to manage and control land and uses developed on the land to maximize the conservation of all forms of energy, based on sound economic principles.

The Bypass project, including Phase 1 and changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection, are intended to improve statewide and regional mobility through the area and to make existing Oregon 99W more accessible for local and regional traffic. The project will help relieve much of the substantial traffic congestion that already exists along Oregon 99W. Facilitating the smooth flow of traffic at acceptable levels of service helps conserve fuel.

Compliance with City of Newberg's Comprehensive Plan and Transportation System Plan

In addition to compliance with applicable statewide planning goals, TSP amendments must comply with applicable local comprehensive plan policies (including relevant policies in adopted transportation system plans) and with applicable standards in local land use regulations.

The findings below address only those policies and associated actions that are directly applicable to the changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection.

A. Citizen Involvement

Policy A, Citizen Involvement, notes that the City of Newberg will continue to implement an ongoing citizen involvement program that provides residents with the opportunity to be involved in all phases of the planning process. For the changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection, the city will provide public notice to affected property owners, opportunities for testimony at public hearings, and appeal of local decisions.

B. Land Use Planning

The goal is to maintain an ongoing land use planning program to implement statewide and local goals. The program shall be consistent with natural and cultural resources and needs.

The changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection are consistent with the land use planning goal because it will help implement Phase 1 of the Bypass which is an approved project in the Newberg TSP and Comprehensive Plan.

H. The Economy

The goal is to develop a diverse and stable economic base.

The Phase 1 Bypass Project, including the changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection, will improve mobility and accessibility generally, and freight movement in particular, throughout the Newberg Dundee urban area, thus resulting in substantially reduced congestion and fewer hours of delay. This supports the goal of developing a diverse and stable economic base.

M. Energy

Goal M, Energy, is to conserve energy through efficient land use patterns and energy-related policies and ordinances.

The Bypass project, including Phase 1, including the changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection, are intended to improve statewide and regional mobility through the area and to make existing Oregon 99W more accessible for local and regional traffic. The project will help relieve much of the substantial traffic congestion that already exists along Oregon 99W and will conserve fuel.

There is a public need for a change of the kind in question.

The public need for this amendment is only to clarify changes to the road and lane configuration of Oregon 219 from north of the Springbrook Road intersection through the Wilsonville Road intersection that occurred as part of the final design project development process.

The need will be best served by changing the classification of the particular piece of property in question as compared with other available property.

There is no reclassification of the property in question. The action is entirely within the Newberg city limits and urban growth boundary.

Newberg TSP Text Change Proposal

There are no proposed text changes to the TSP, and the two figures included in this amendment request will replace those previously adopted as part of the 2013 TSP amendment.

Attachment A

OR 219 at Springbrook/Industrial Parkway

FEIS Build - Dual Through lanes on southbound approach
ODOT Build - Current Design Configuration

Cycle length - 110 seconds - Each option optimized

2016 v/c ratio	Intersection	Eastbound		Westbound		Northbound			Southbound		
		Left	Thru/Rt	Left	Thru/Rt	Left	Thru	Right	Left	Thru/Rt Thru	Right
Standard	0.8	------	------	------	------	------	------	------	------	------	------
No Build @	0.66	0.65	0.27	0.74	0.15	0.04	0.74	0.19	0.29	0.61	------
FEIS build	0.69	0.57	0.23	0.66	0.05	0.11	0.86	0.4	0.27	0.79	------
ODOT Build	0.94	0.57	0.23	0.84	0.05	0.14	0.67	0.4	0.15	1.18	------

@ - Volumes for Southbound Through are about 350 vehicles less thatn any of the build options.

From Analysis file - not memo reported	
In Standard	
Over Standard	
Over Capacity	

Queue Lengths - Simulation - 5 runs (feet)

Configuration	Cycle Length	Eastbound		Westbound			Northbound				Southbound		
		Left	Thru/Rt	Left	Left	Thru/Rt	Left	Thru	Thru	Right	Left	Thru/Rt Thru	Right
Link length	------	100	1042	425	2300	300	310	1256	1256	360	360	5013	150 +/-
ODOT Build	110 sec	86	101	445	533	198	22	286	287	144	420	3615	185
	Acceptable ?	Yes	Yes	Yes **	Yes	Yes	Yes	Yes	Yes	Yes	Yes ***	NO ****	Yes **
ODOT Build	120 sec	90	96	399	416	181	16	286	296	126	492	3136	151
	Acceptable ?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes ***	NO ****	Yes
ODOT Build	145 sec	91	99	444	555	186	17	317	318	122	358	1392	144
	Acceptable ?	Yes	Yes	Yes **	Yes	Yes	Yes	Yes	Yes	Yes	Yes	NO ****	Yes

Yes	Queues are within the link length
Yes **	While queue is long, it is within 1 or 2 vehicle lengths
Yes ***	Queues spill outside of lane, but only about 5-6 can lengths
NO ****	Long queue even though it fits on the link

INTEROFFICE MEMO

TECHNICAL SERVICES
Traffic-Roadway Section
Office Phone: (503) 986-3568
Fax: (503) 986-3749

DATE: June 16, 2015

File Code: Hwy 140, MP 21.60

TO: Dorothy Upton, P.E.
Region 2 Traffic Engineer

FROM: Bob Pappe, P.E., P.L.S.
State Traffic/Roadway Engineer

SUBJECT: **Traffic Signal Modifications**
OR 219 @ Springbrook Road/Industrial Drive
City of Newberg
Yamhill County

We have reviewed your request for signal modifications at the intersection of OR 219 (Hillsboro – Silverton Hwy) and Springbrook Road/Industrial Drive in Yamhill County. The proposed modifications consist of dual left turn lanes from Springbrook Road and an additional through lane on OR 219 northbound. The existing U-Turn on OR 219 from the southbound left turn lane will remain in place. These modifications are part of the Newberg – Dundee By-Pass Project (ODOT Key No. 17099). They are necessary to accommodate traffic routed over Springbrook Road as an interim segment of the Bypass until such time in the future the final east phase of the bypass is constructed.

In accordance with OAR 734-20-0410, your request is approved. The approval is based on our review of the information your office submitted. The approval has the following stipulations:

- The design and operation will be according to the **Manual on Uniform Traffic Control Devices** (2009 edition), ODOT'S **Traffic Signal Policy and Guidelines,** and ODOT's **Traffic Signal Design Manual.**
- Lane configuration and phasing shall be designed according to the attached Preliminary Signal Operations Design Reports signed by the Region Traffic Operations Engineer.
- This office must approve the final signal design plans.

If you have concerns or questions regarding this approval, please contact Craig Black at 503-986-3576.

CB/lbm

Attachment: Preliminary Signal Operations Design Reports

Electronic Copies to:
Craig Black, Traffic Operations
Angela Kargel, Region 2 Traffic Manager
Scott Cramer, Traffic Standards
Julie Infante, Region 2 Traffic

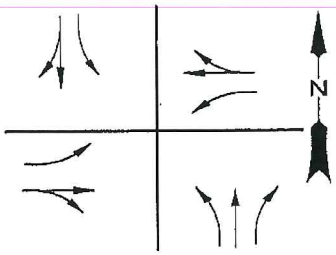
Preliminary Signal Operations Design (Revision 2)

Region 2
Traffic Unit
Phone: (503) 986-2826

Project: Newberg-Dundee Bypass (Phase IG) Key #: 17099 Date: 09/23/14
Location: OR 219 at Springbrook Rd/Industrial Way City: Newberg County: Yamhill
Highway: OR 219 Hillsboro-Silverton Hwy No: 140 Mile Point: 21.60
Project- Signal Modification

Existing Information

Lane Configuration



Crosswalks

- ☑ North Approach
- ☑ South Approach
- ☑ East Approach
- ☑ West Approach

Bike Lanes

- ☐ North Approach
- ☑ South Approach
- ☐ East Approach
- ☐ West Approach

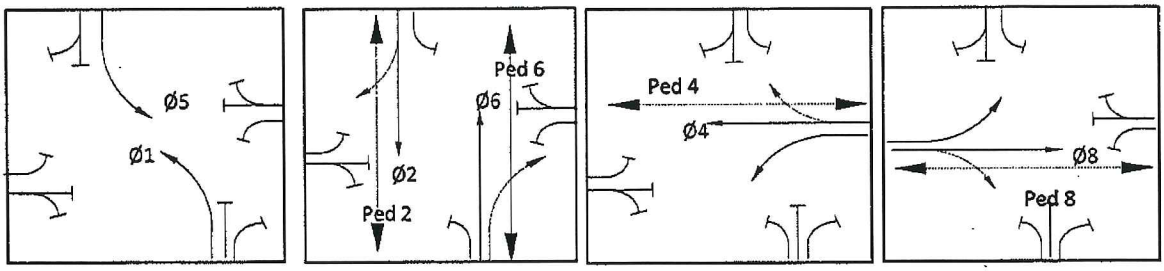
Traffic Control

- ☐ 2-Way Stop
- ☐ All-Way Stop
- ☑ Signalized

Posted Speed Limit

Highway: 45 mph
Side Street: 35/25 mph

Existing Vehicle and Pedestrian Phasing (if Signalized)



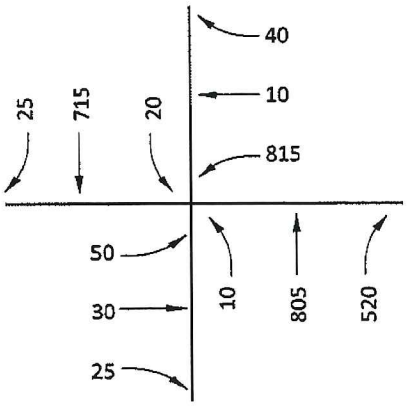
Ø1+Ø5 Ø2+Ø6 Ø4 Ø8

U-turn allowed on Phase 5

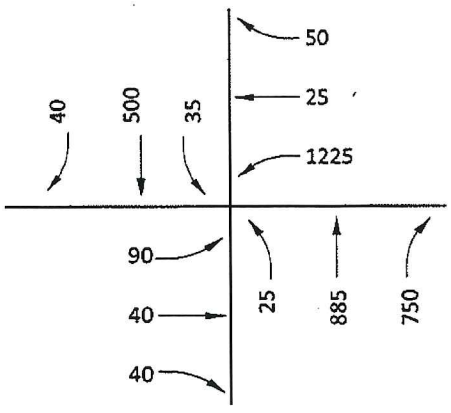
Traffic Volumes

PM

Opening Year 2016



Future Year 2035*



Other Relevant Information

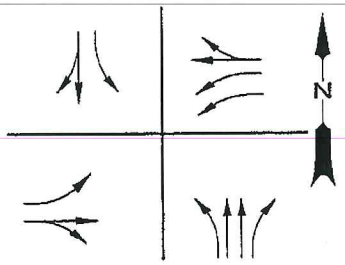
*Note: the rest of the bypass is planned to be built before 2035

Preliminary Signal Operations Design (Revision 2)

Region 2
Traffic Unit
Phone: (503) 986-2826

Recommended Signal Design

Lane Configuration



Crosswalks

- ☑ All crosswalks provided
- ☐ Following crosswalks closed
  - ☐ North Approach
  - ☐ South Approach
  - ☐ East Approach
  - ☐ West Approach

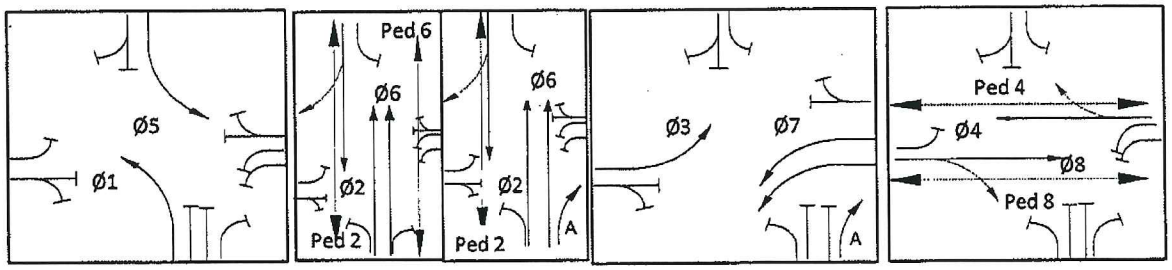
Bike Lanes/Paths

- ☐ North Approach
- ☑ South Approach
- ☑ East Approach*
- ☑ West Approach*

Other Required Features

- ☑ Signal interconnect to: OR 219 @ OR 18, Springbrook @ Fernwood
- ☑ Communication type: ethernet over fiber
- ☑ 2070 controller
- ☑ Illumination
- ☑ Audible/accessible pedestrian signals
- ☐ Railroad preemption
- ☐ Other: _____

Recommended Vehicle and Pedestrian Phasing



Ø1+Ø5 | Ø2+Ø6 | Ø3 +Ø7 | Ø4+Ø8

OLA = 6 + 7 - 6 PED

Notes regarding right turn lane control

Northbound right turn: protected w/overlap
Southbound right turn, eastbound right turn, westbound right turn: permitted

Primary considerations used to determine left turn phasing

All left turns are protected
U-turn allowed on Phase 5

Considerations for mitigating bike-vehicle conflicts (if any)

*Multi-use path (project build) uses south side of this intersection. Bikes and peds to use crosswalk (Ped 8).

Design Vehicle Information (to be confirmed with Roadway Designer)

☑ Design for

Design Vehicle: WB-67

If Bus or Other, specify: _____

☐ Accommodate

Recommended by: _____
Region 2 Signal Operations Engineer

Attachment B

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING
610 SW Alder Street, Suite 700, Portland, OR 97205 P 503.228.5230 F 503.273.8169

MEMORANDUM

Date: August 18, 2015

Project #: 9372

To: Bill Ciz, Parametrix

From: Sarah Miller and Wade Scarbrough

Project: Newberg Dundee Bypass

Subject: Modified Bypass Intersection Operations

Per your request, this memorandum summarizes our preliminary analysis of the revised ODOT plans for the Oregon 219/Bypass/Wilsonville Road intersection. We understand that the conceptual design for the intersection now reflects three primary modifications from what we previously analyzed:

- The southbound Oregon 219 approach will include a right-turn, a through lane and a left-turn lane.
- The westbound Wilsonville Road approach will include a right-turn lane and a left-turn lane. No westbound through movements to the Bypass will be allowed.
- The eastbound Bypass approach will include a right-turn lane and dual left-turn lanes. No eastbound through movements to Wilsonville Road will be allowed.

We analyzed year of opening (2017) and 2035 intersection operations with the above modifications in-place. The traffic volumes used in the analyses are consistent with those we previously used as part of Bypass Phase 1 work. Table 1 summarizes the results of our analyses.

Table 1. Oregon 219/Wilsonville Road/Bypass Intersection Operations

Analysis Year	Level-of-Service (LOS)	Volume-to-Capacity Ratio (V/C)
2017	C	0.67
2035	C	0.82

Please let us know if you need any additional information.

Newberg TSP Amendment – Additional Information on Oregon 219 Southbound Lane Configuration and on the Oregon 219/Phase 1 Bypass/ Wilsonville Road Intersection

Introduction

This document provides supplemental information requested by the City of Newberg as part of the Transportation System Plan (TSP) Amendment proposed by the Oregon Department of Transportation (ODOT) related to the Newberg Dundee Bypass (Bypass). In response to City comments, this document summarizes the transportation modeling performed for the Bypass as part of the Environmental Impact Statement (EIS) and the results of the alternative analyses conducted to support the final design for Oregon 219 and for the location and configuration of Wilsonville Road. This supplemental information also updates the traffic performance analysis originally provided in the TSP application for the Oregon 219/Springbrook Road/Industrial Parkway and Oregon 219/Phase 1 Bypass/Wilsonville Road intersections.

Newberg Dundee Bypass Transportation Modeling

To understand the changes in travel patterns associated with the Bypass, ODOT collected and analyzed information about existing traffic volumes, existing and future households and employees in the area, measured travel times using various routes for common destinations, and the delay experienced by drivers traveling the Oregon 99W corridor today. This data informed the transportation-related analyses performed for the Tier 1 Final EIS (FEIS), Tier 2 FEIS, and the 2004 Goal Exception. This information also served as inputs to the design of the streets and intersections that will be modified as part of the Bypass as well as for the design of the Bypass itself.

In addition to data collected about today's conditions, ODOT's Transportation Planning and Analysis Unit (TPAU) maintains travel demand forecasting models that are used to understand how increases in population and employment throughout regions of the state as well as increases in non-regional "through" traffic will contribute to traffic volumes in the year 2035. The population and employment forecasts for the Newberg Dundee area are also "coordinated" with forecasts for Yamhill County and statewide for compliance with Oregon planning requirements.

For the FEIS analyses, TPAU's model for the Newberg Dundee area was used as one of the tools that informed the roadway and intersection needs anticipated in the year 2035. Forecasts from this model as well as existing traffic volumes measured in 2011 were used to understand:

- How increases in traffic volumes traveling through the area as well as increases in population and employment in the Newberg Dundee area would change traffic volumes between now and 2035 at 33 intersections throughout Newberg and Dundee if the Bypass was not constructed.
- How volumes at the 33 intersections plus 8 Bypass-related intersections/ramp termini would change in the year 2035 if the Full Bypass were constructed.
- How volumes at the intersections would change in the year 2016 and the year 2035 would change if only Phase 1 of the Bypass were constructed.

ODOT used the traffic volumes forecast for the above scenarios as part of the intersection and roadway designs at Bypass-related intersections to ensure that the Bypass would not create a significant effect on the transportation system.

To supplement the Tier 1 analysis and resulting design, ODOT also used information from its Gen1 Model to understand how the Bypass could change commuting patterns between Yamhill County and the Portland Metro area (Washington, Clackamas, and Multnomah Counties). This model showed commuting from the McMinnville area would slightly increase but commuting from Newberg would slightly decrease. These changes result in very small net increases in the traffic volumes and passenger and freight miles traveled as a result of the Bypass. The Gen1 Model results confirmed that the roadway and intersection designs would be the same as those developed using the TPAU modeling and other tools.

Oregon 219 Southbound Lane Configuration

During the final design process for Phase 1 of the Bypass, ODOT reviewed all roadway lane configurations and intersection designs presented in the FEIS Preferred Alternative to ensure compliance with applicable design and operational standards and practices. As part of this process, two alternatives were evaluated for Oregon 219 southbound between the Springbrook Road/Industrial Parkway intersection and just south of the Phase 1 Bypass/Wilsonville Road intersection. These alternatives include:

- FEIS Preferred Alternative – Provide two lanes southbound and two lanes northbound on Oregon 219.
- Final Design Alternative – Provide one lane southbound and two lanes northbound on Oregon 219.

More detail on each of these alternatives is provided below.

FEIS Preferred Alternative (Two Southbound Through Lanes on Oregon 219)

As part of the Tier 2 FEIS for Phase 1, Oregon 219 was planned to be widened to two lanes southbound, north of the Oregon 219/Springbrook Road/Industrial Parkway intersection. This widening would continue southbound to south of the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection. The FEIS Alternative also includes two southbound right turn lanes onto the Phase 1 Bypass. Northbound Oregon 219 in this same segment would also be widened to two through lanes. This design is shown in Figure A.

Analysis of the operational impacts of the FEIS Alternative revealed the following:

- The Oregon 219/Springbrook Road/Industrial Parkway intersection would operate at a volume-to-capacity ratio (v/c ratio) of 0.62 with the widening and a traffic signal in-place in the opening year of Phase 1 of the Bypass. This complies with ODOT's mobility standard of 0.80 for the intersection.
- The Oregon 219/Phase 1 Bypass/Wilsonville Road intersection would operate at a v/c ratio of 0.65 with the widening and a traffic signal in-place in the opening year of Phase 1. This complies with ODOT's design standard of 0.65 for this intersection.

Final Design Alternative (One Southbound Through Lane on Oregon 219)

Following completion of the Tier 2 FEIS, ODOT's design staff refined the evaluation of Oregon 219 operations between the Oregon 219/Springbrook Road/Industrial Parkway intersection and the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection. This review revealed that although the intersections' comply with ODOT's performance standards, the FEIS configuration could present difficulties for drivers

turning left from Springbrook Road onto Oregon 219 that also wanted to turn right on the Bypass, given that there is approximately 1,000 feet between these intersections available to "weave" over to the right turn lanes to the Bypass. To minimize the number of lane changes, ODOT developed a design for this segment of Oregon 219 that included only one southbound through lane and one channelized right turn lane onto the Phase 1 Bypass (with no changes to the lane configuration in the northbound direction). This updated design is shown in Figure A.

Based on this updated design alternative, the operations were reviewed at the Oregon 219/Springbrook Road/Industrial Parkway and Oregon 219/Phase 1 Bypass/Wilsonville Road intersections. This review revealed:

- The Oregon 219/Springbrook Road/Industrial Parkway intersection would operate at a v/c ratio of 0.75 in the opening year of Phase 1 of the Bypass. This complies with ODOT's mobility standard of 0.80 for the intersection.
- The Oregon 219/Phase 1 Bypass/Wilsonville Road intersection would operate at a v/c ratio of 0.76 in the opening year of Phase 1. This exceeds ODOT's performance standard of 0.65 for this new intersection (as defined by the Highway Design Manual, HDM); however, the intersection would meet the Oregon Highway Plan (OHP) v/c standard of 0.80 for this section of Oregon 219. ODOT felt that the safety benefits associated with minimizing lane changes along Oregon 219 outweighed the need to comply with the HDM standard.

ODOT Preferred Alternative

Based on the refined evaluation of operations and safety, ODOT modified the design for Phase 1 to reflect one southbound lane on Oregon 219 rather than the two originally included in the FEIS. In addition to the safety benefits, the Final Design Alternative also requires less right-of-way than the FEIS Alternative, thereby reducing the overall costs associated with the Phase 1 construction.

The FEIS Alternative also could have resulted in a number of business displacements and/or building modifications in the industrial park west of Oregon 219 between the Oregon 219/Springbrook Road/Industrial Parkway and Oregon 219/Phase 1 Bypass/Wilsonville Road intersections. With the revised design, these impacts and displacements would be minimized.

Based on the review of safety, operations, design considerations, and right-of-way impacts, ODOT requests the City of Newberg approve the requested TSP amendment to reflect the Final Design Alternative of providing one southbound lane on Oregon 219.

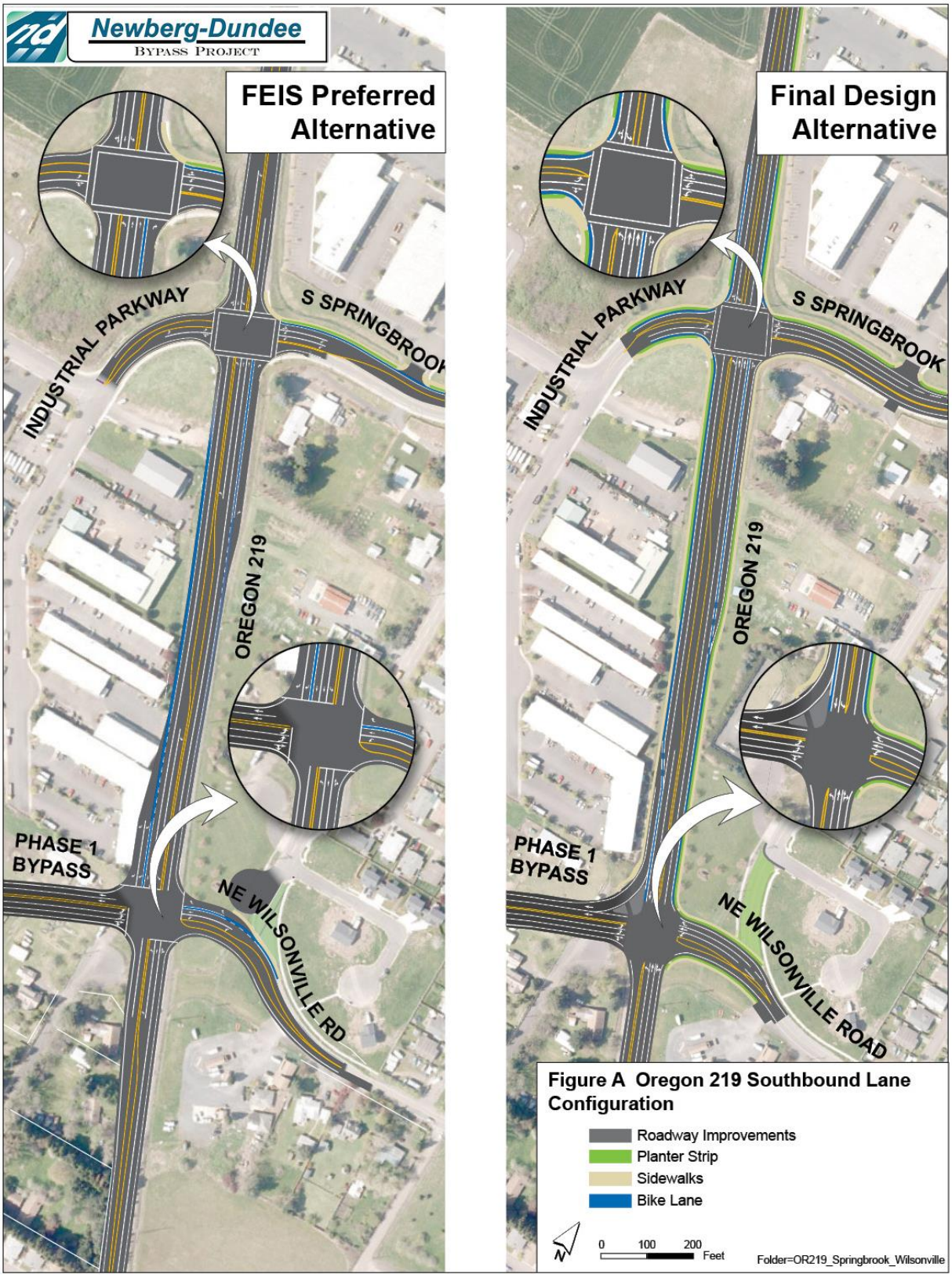


Figure A Oregon 219 Southbound Lane Configuration

Oregon 219/Phase 1 Bypass/Wilsonville Road Intersection

The City of Newberg amended its TSP in 2013 to reflect the FEIS Alternative for Phase 1. Since that time, ODOT and the Ladd Hill Neighborhood Association (LHNA) have continued to investigate potential design options related specifically to the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection to ensure that the Phase 1 Bypass will not cause significant traffic impacts to Wilsonville Road. As part of the 2013 TSP Amendment, ODOT committed to installing specific signage that would discourage traffic from using Wilsonville Road and to provide ongoing traffic monitoring to ensure that no unanticipated impacts occur once Phase 1 of the Bypass is open to traffic.

In addition to LHNA, Clackamas County and the City of Wilsonville have also raised questions about the potential use of Wilsonville Road to travel between I-5 and the Phase 1 Bypass. In response to these questions, ODOT explored additional design options that seek to minimize Phase 1 Bypass–related traffic using Wilsonville Road. In reviewing these additional design options, ODOT sought solutions that minimize potential delays to the overall schedule to open the Phase 1 Bypass to traffic in 2017. As part of the Phase 1 Bypass opening, it is essential that both Oregon 219 and Springbrook Road are improved to accommodate traffic between Oregon 99W and the Phase 1 Bypass in southeast Newberg. Any modifications to the design for Wilsonville Road must be included in the Phase 1G project, which is scheduled to go to construction bid in February 2016 and be completed in 2017. With these objectives in mind, ODOT identified two important considerations to assess:

- Could the modified design option be constructed within the current project right-of-way footprint? The right-of-way purchase process for the Phase 1 Bypass is well under way, and changes or additional right-of-way acquisition could delay construction completion.
- Would the design option require additional utility relocation? Most utilities have been or are in the process of being relocated. Requiring utility companies to move additional utilities or relocate utilities that have been moved could delay construction or increase the costs of Phase 1 Bypass construction if ODOT is required to pay the relocation costs.

Further discussion on each of the design options considered related to Wilsonville Road is provided below. These options were reviewed relative to projected intersection operations and the potential effect of out-of-direction travel on nearby ODOT and Newberg roads.

The following intersections were analyzed under Opening Year 2017 conditions:

- Oregon 219/Phase 1 Bypass
- Oregon 219/Springbrook Road/Industrial Parkway
- Oregon 219/Wynooski Road
- Springbrook Road/Wilsonville Road
- Springbrook Road/2nd Street/Fernwood Road

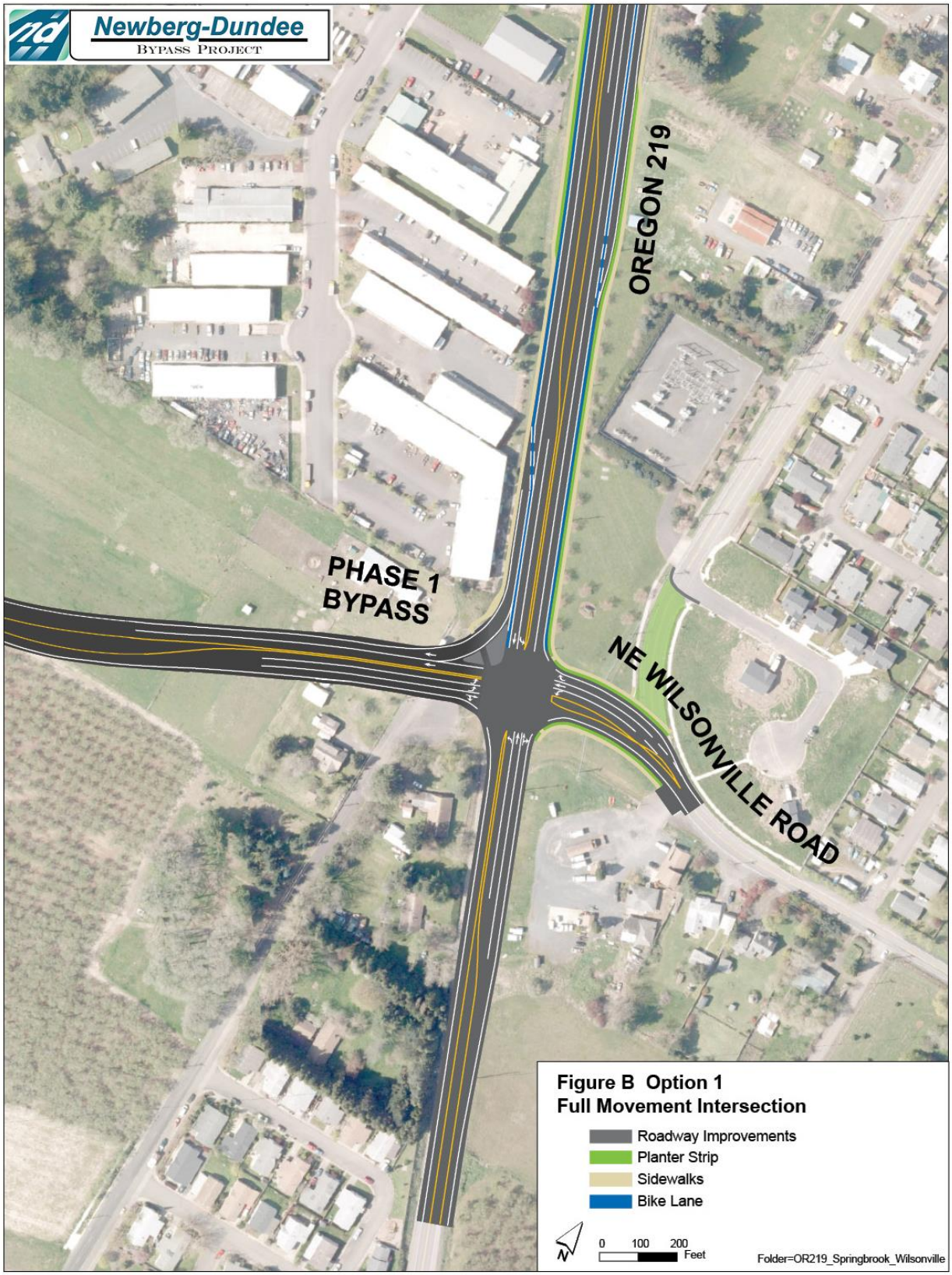
A summary of each option's intersection operations is provided in Table 1 at the end of this report as well as within the description of each option. Traffic analysis figures for each option are included in Appendix A.

Option 1 – Full Movement Intersection

Option 1 represents the Final Design Alternative proposed by ODOT as part of the requested TSP Amendment for the Oregon 219 lane configuration modification presented in this document (i.e., one continuous through lane southbound on Oregon 219). As part of Option 1, all turning movements would be allowed at the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection. As such, travel between Wilsonville Road and the Phase 1 Bypass could occur via through movements at the signalized intersection. The proposed intersection configuration as part of Option 1 is reflected in Figure B.

As shown below in Table 1, the v/c ratio at the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection is projected to be 0.76. Although this value is slightly above ODOT's design standard for a new intersection on the state highway system, the proposed design would meet the OHP mobility standard and provide enhanced safety benefits (see the previous section of this report for further discussion). The Oregon 219/Springbrook Road/Industrial Parkway, the existing Springbrook Road/Wilsonville Road, and Springbrook Road/2nd Street/Fernwood Road intersections will all meet the performance standards.

Because Option 1 is currently part of ODOT's recommended design, it can be built within the available right-of-way, with no further utility impacts or schedule delays.


Newberg-Dundee
Bypass Project
OREGON 219
PHASE 1
BYPASS
NE WILSONVILLE ROAD
Figure B Option 1
Full Movement Intersection
Roadway Improvements
Planter Strip
Sidewalks
Bike Lane
N
0 100 200
Feet
Folder=OR219_Springbrook_Wilsonville

Option 2 – Traffic Signal at the Springbrook Road/Wilsonville Road Intersection

Option 2 would maintain the existing configuration of Wilsonville Road and eliminate the future connection to the Oregon 219/Phase 1 Bypass intersection. Today, Wilsonville Road intersects Springbrook Road approximately 500 feet east of Oregon 219 at an unsignalized junction. Under Option 2, the Springbrook Road/Wilsonville Road intersection would require signalization or the installation of a roundabout. A traffic signal could operate with one lane in each direction on Springbrook Road plus a westbound left turn lane.

A roundabout at the Springbrook Road/Wilsonville Road intersection would require a two-lane entry on the westbound approach of Springbrook Road and a single-lane entry on the eastbound approach. Construction of the roundabout at the Springbrook Road/Wilsonville Road intersection would require additional right-of-way at the intersection. It would also likely cause additional utility relocations and impacts to existing parking areas and building structures. For these reasons, the roundabout option at the Springbrook Road/Wilsonville Road intersection has been eliminated from further consideration.

Figure C displays the roadway and intersection configurations for Option 2.

Under Option 2, anyone wishing to travel between the Phase 1 Bypass and Wilsonville Road would need to travel through the Springbrook Road/Wilsonville Road and Oregon 219/Springbrook Road/Industrial Parkway intersections. No direct connection between Wilsonville Road and the Phase 1 Bypass would be provided.

As a signalized intersection, the Springbrook/Wilsonville Road intersection would function at a v/c ratio of 0.68; as a multilane roundabout, the intersection would also function at a v/c ratio of 0.68. As shown in the Table 1, the operations at the remaining intersections would be similar to that experienced under Option 1.

Given the relatively close spacing of signalized intersections in this design option, a preliminary queuing analysis was performed assuming opening year traffic conditions. This analysis found that queues in the dual westbound left-turn lanes at the Oregon 219/Springbrook Road/Industrial Parkway intersection would extend approximately 400 feet. With approximately 450 feet available between intersections, these queues could theoretically be accommodated; however, there is insufficient distance for vehicles to transition into the turn lanes and no room for additional traffic growth in the future. Furthermore, this analysis assumed a balanced use of the dual left-turn lanes. Given the demand for traffic to make a right turn at the Phase 1 Bypass intersection downstream, it is likely that a majority of traffic would favor the right-hand lane. As such, queues at the Oregon 219/Springbrook Road/Industrial Parkway intersection are expected to extend into the Springbrook Road/Wilsonville Road intersection periodically during peak travel periods.

These queue spillback issues could cause blockages and conflicts for vehicles turning at the Springbrook Road/Wilsonville Road intersection, thereby reducing the intersection performance. Additionally, standing queues within the intersection would create concerns for pedestrian safety and other nonmotorized users.

Construction of a traffic signal at the Springbrook Road/Wilsonville Road intersection and modifying the Oregon 219/Phase 1 Bypass intersection would not result in right-of-way impacts. This option would likely require additional utility relocations, and the redesign could result in minor delays to the construction schedule.

While this option may perform acceptably in 2017, the opening year of the Phase 1 Bypass, as traffic volumes continue to grow the queueing will block the Springbrook Road/Wilsonville Road intersection. This amount of queueing will be problematic to traffic corridor operations and is not an acceptable option for Wilsonville Road, since there is no capacity for the future projected growth.

Newberg-Dundee
Bypass Project
INDUSTRIAL PARKWAY
S SPRINGBROOK RD
OREGON 219
NE WILSONVILLE RD
PHASE 1
BYPASS
NE WILSONVILLE RD
Figure C Option 2
Traffic Signal at Springbrook/Wilsonville
Road Intersection
Roadway Improvements
Planter Strip
Sidewalks
Bike Lane
Traffic Signal
N
0 100 200
Feet
Folder=OR219_Springbrook_Wilsonville

Option 3 – Right In and Out at Springbrook Road/Wilsonville Road Intersection

Option 3 is the same as Option 2 except that the Springbrook Road/Wilsonville Road intersection would be right-in/right-out on the Wilsonville Road approach instead of allowing for full movement and signalization. Like Option 2, no direct connection between the Phase 1 Bypass and Wilsonville Road would be provided.

Option 3 would cause additional out-of-direction movements for westbound drivers seeking to travel between Wilsonville Road and the Phase 1 Bypass. Under this option, westbound travelers would need to use the Springbrook Road/Wilsonville Road, Springbrook Road/2nd Street/Fernwood Road, and Oregon 219/Springbrook Road/Industrial/Parkway intersections. In addition, travelers would either use 2nd Street, Hayes Street, or Oregon 99W to travel between northbound Springbrook Road and southbound Oregon 219 to access the Phase 1 Bypass. This would result in additional impacts to both city streets and state highways. Option 3 is reflected in Figure D.

Under this option, the Springbrook Road/Wilsonville Road intersection would function with a v/c ratio of 0.63. As shown in the Table 1, the operations at the remaining intersections would be similar to that experienced under Option 1.

Given the out-of-direction travel anticipated with this option, the Springbrook Road/2nd Street/Fernwood Road intersection operations were also reviewed. Per this analysis, this intersection would operate at a v/c ratio of 0.85, which meets the performance standard. However, approximately 200 vehicles per hour would need to find alternative routes and/or make U-turns to access the Phase 1 Bypass.

Option 3 can be built within the existing project right-of-way and with no utility impacts and no schedule delays.

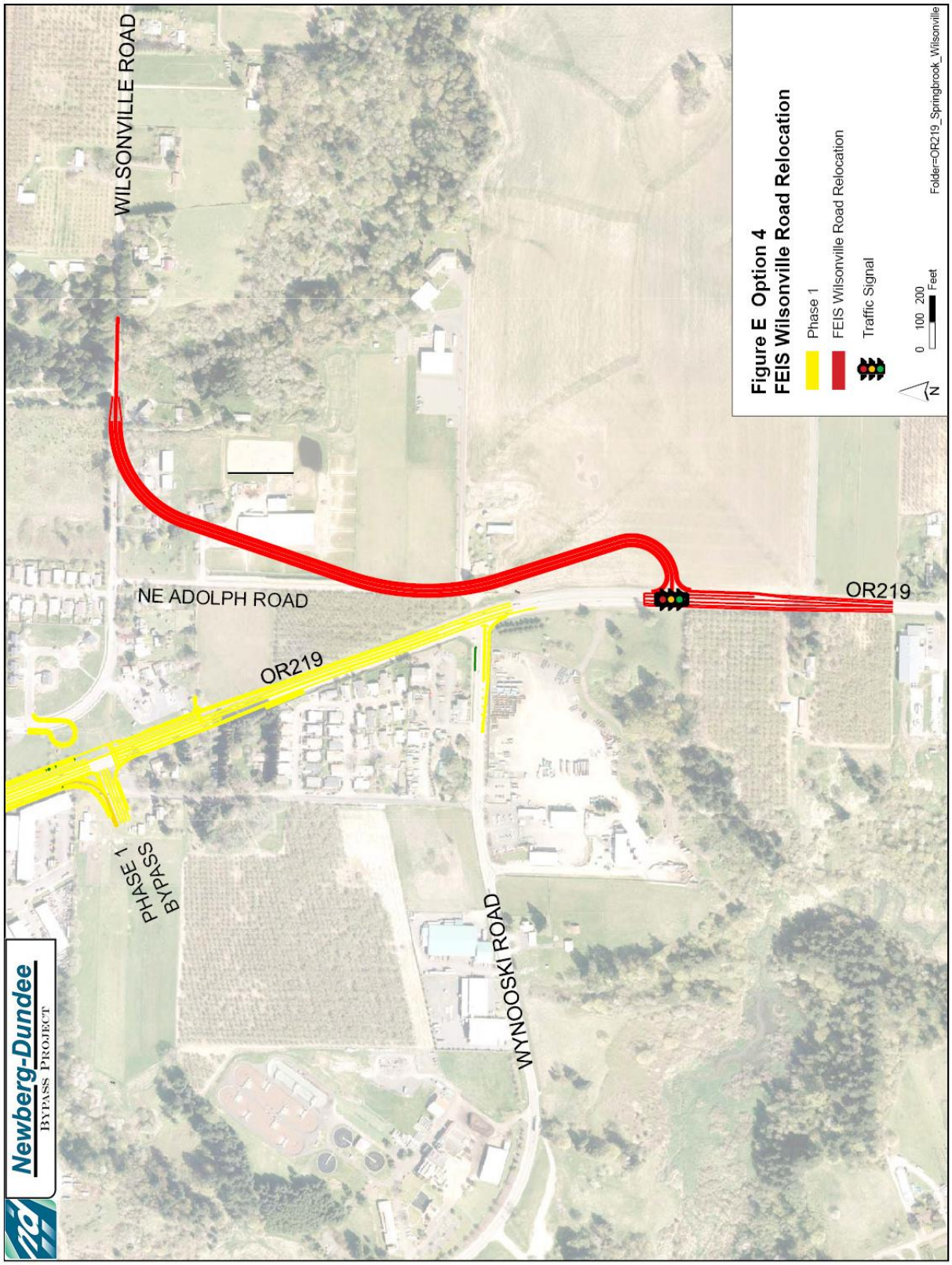
Newberg-Dundee
Bypass Project
INDUSTRIAL PARKWAY
S SPRINGBROOK RD
OREGON 219
NE WILSONVILLE RD
PHASE 1
BYPASS
NE WILSONVILLE RD
Figure D Option 3
Right In/Out at Springbrook/Wilsonville
Road Intersection
Roadway Improvements
Planter Strip
Sidewalks
Bike Lane
Median
N
0 100 200
Feet
Folder=OR219_Springbrook_Wilsonville

Option 4 – FEIS Wilsonville Road Relocation

Option 4 was developed as part of the FEIS Preferred Bypass Alternative for the relocation of Wilsonville Road. This option assumes that the Full Bypass and the Oregon 219 Interchange are constructed. No further relocation of Wilsonville Road would be required. Option 4 would realign Wilsonville Road to a new intersection on Oregon 219 south of the Oregon 219/Wynooski Road intersection. The southerly connection would occur partially via Adolf Road. This option would provide a direct connection between Wilsonville Road and Oregon 219, but would not directly provide a connection to the Phase 1 Bypass. Drivers would go through the new Oregon 219 intersection to travel to/from Wilsonville Road and the Phase 1 Bypass. Under this option, the new Oregon 219/Wilsonville Road intersection would require signalization. Option 4 is reflected in Figure E.

Under this option, the new signalized Oregon 219/Wilsonville Road intersection would operate acceptably with a v/c ratio of 0.54. As shown in the Table 1, the operations at the remaining intersections would be similar to that experienced under Option 1.

Option 4 would require new right-of-way, additional utility relocations, and could delay the construction schedule if it was added to the Phase 1G project.


Newberg-Dundee
BYPASS PROJECT
WILSONVILLE ROAD
NE ADOLPH ROAD
OR219
OR219
PHASE 1
BYPASS
WYNOOSKI ROAD
Figure E Option 4
FEIS Wilsonville Road Relocation
Phase 1
FEIS Wilsonville Road Relocation
Traffic Signal
0 100 200 Feet
N
Folder=OR219_Springbrook_Wilsonville

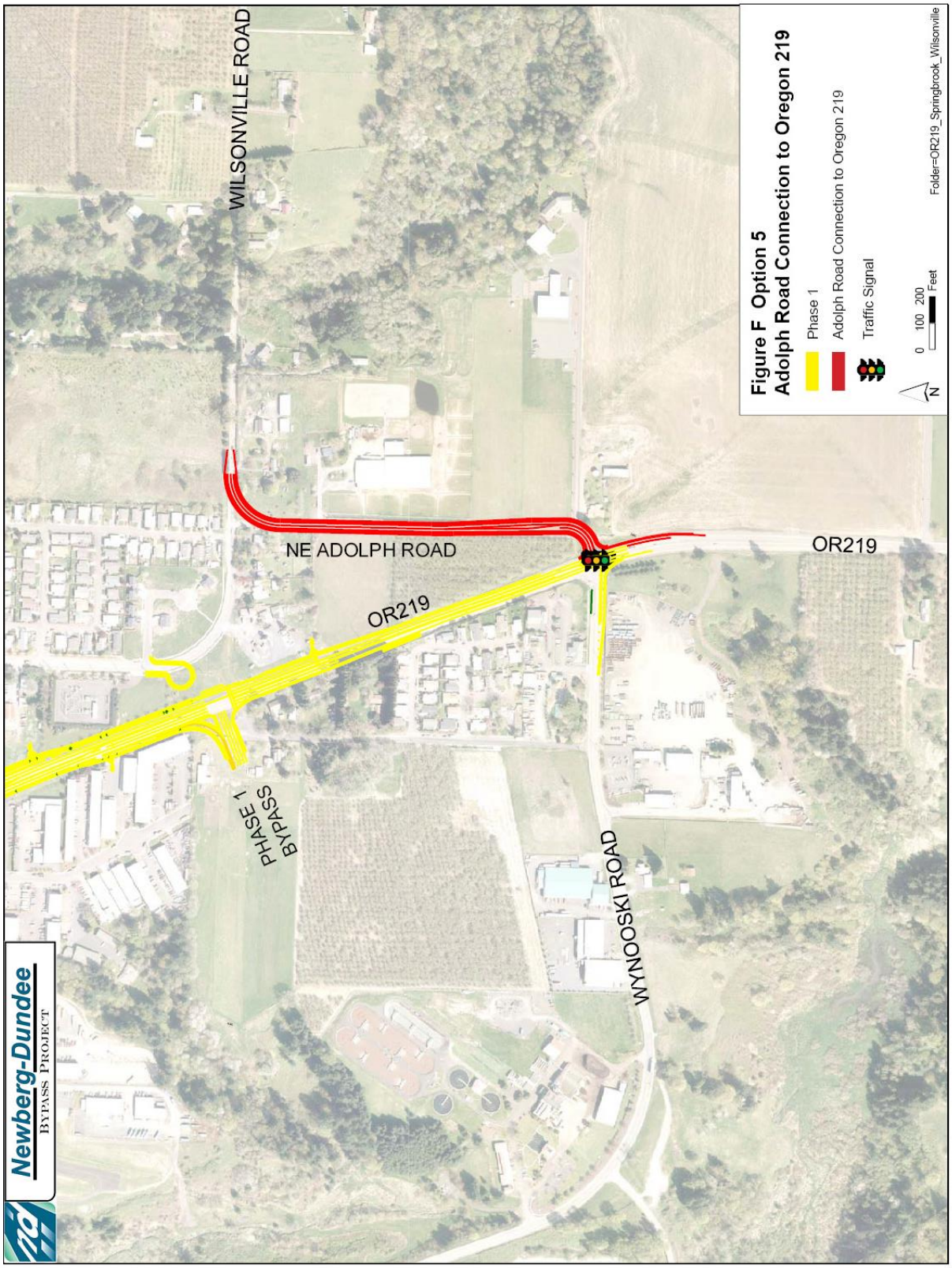
Option 5 – Adolf Road Connection to Oregon 219

Option 5 is similar to Option 4 except that Wilsonville Road would intersect Oregon 219 at the Oregon 219/Wynooski Road intersection rather than to the south. Option 5 would also create a southerly connection of Wilsonville Road to Oregon 219 that uses more of the Adolf Road right-of-way than Option 4 does. Option 5 is reflected in Figure F.

Like Option 4, Option 5 would not provide a direct connection between the Phase 1 Bypass and Wilsonville Road. Rather, drivers would use Oregon 219 to travel between Wilsonville Road and the Phase 1 Bypass.

Under this option, the Oregon 219/Wynooski Road/Wilsonville Road intersection would operate at a v/c ratio of 0.58 assuming signalization. As shown in Table 1, the operations at the remaining intersections would be similar to that experienced under Option 1.

Option 5 would require new right-of-way, additional utility relocations and could delay the construction schedule if it was added to the Phase 1G project.

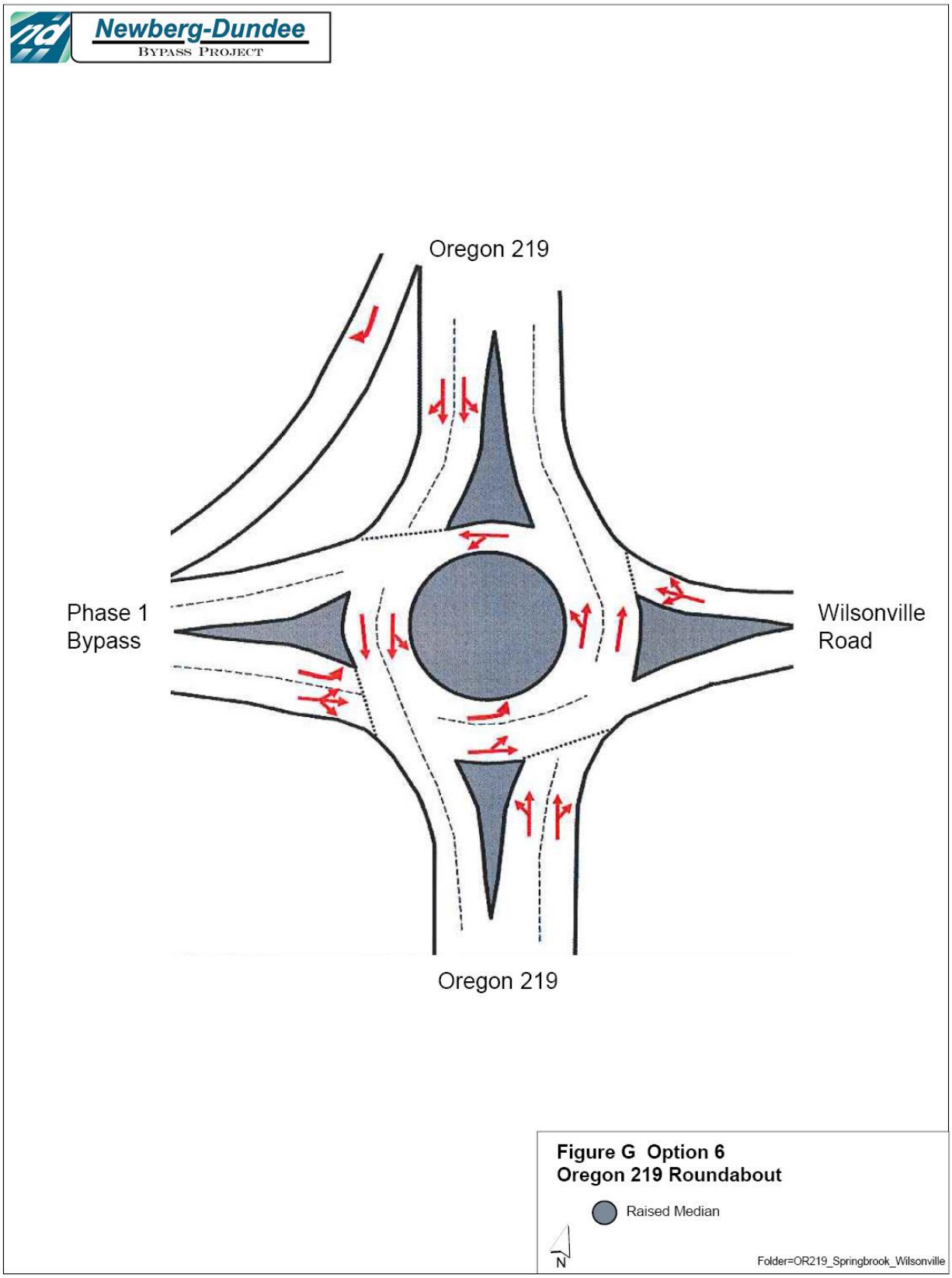

WILSONVILLE ROAD
NE ADOLPH ROAD
OR219
OR219
PHASE 1
BYPASS
WYNOOSKI ROAD
Newberg-Dundee
BYPASS PROJECT
Figure F Option 5
Adolph Road Connection to Oregon 219
Phase 1
Adolph Road Connection to Oregon 219
Traffic Signal
0 100 200 Feet
N
Folder=OR219_Springbrook_Wilsonville

Option 6 – Oregon 219 Roundabout

Option 6 would be the same as Option 1 except that the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection would be constructed with a roundabout rather than a traffic signal. Construction of a roundabout would require two lanes northbound and southbound on Oregon 219. Like Option 1, Option 6 provides direct access between Wilsonville Road and the Phase 1 Bypass. This option is reflected in Figure G.

Assuming a multilane roundabout, the Oregon 219/Phase 1 Bypass/Wilsonville Road roundabout would operate with a v/c ratio of 0.66. As shown in the Table 1, the operations at the remaining intersections would be the same as that experienced under Option 1.

Construction of a roundabout at the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection would likely result in additional right-of-way impacts. This option would also likely require additional utility relocations, and the redesign could result in minor delays to the construction schedule.


Newberg-Dundee
Bypass Project
Oregon 219
Phase 1
Bypass
Wilsonville
Road
Oregon 219
Figure G Option 6
Oregon 219 Roundabout
Raised Median
N
Folder=OR219_Springbrook_Wilsonville

Option 7 – No Connection from Eastbound Phase 1 Bypass to Wilsonville Road

Option 7 is similar to Option 1 except that no eastbound through movements would be allowed at the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection. Under this option, westbound Wilsonville Road travelers could access the Phase 1 Bypass directly via the intersection, whereas eastbound travelers would either need to turn left or right onto Oregon 219 and find an alternative route to Wilsonville Road. Figure H represents this option. As shown, this intersection would require signalization as well as raised medians to prohibit eastbound through movements.

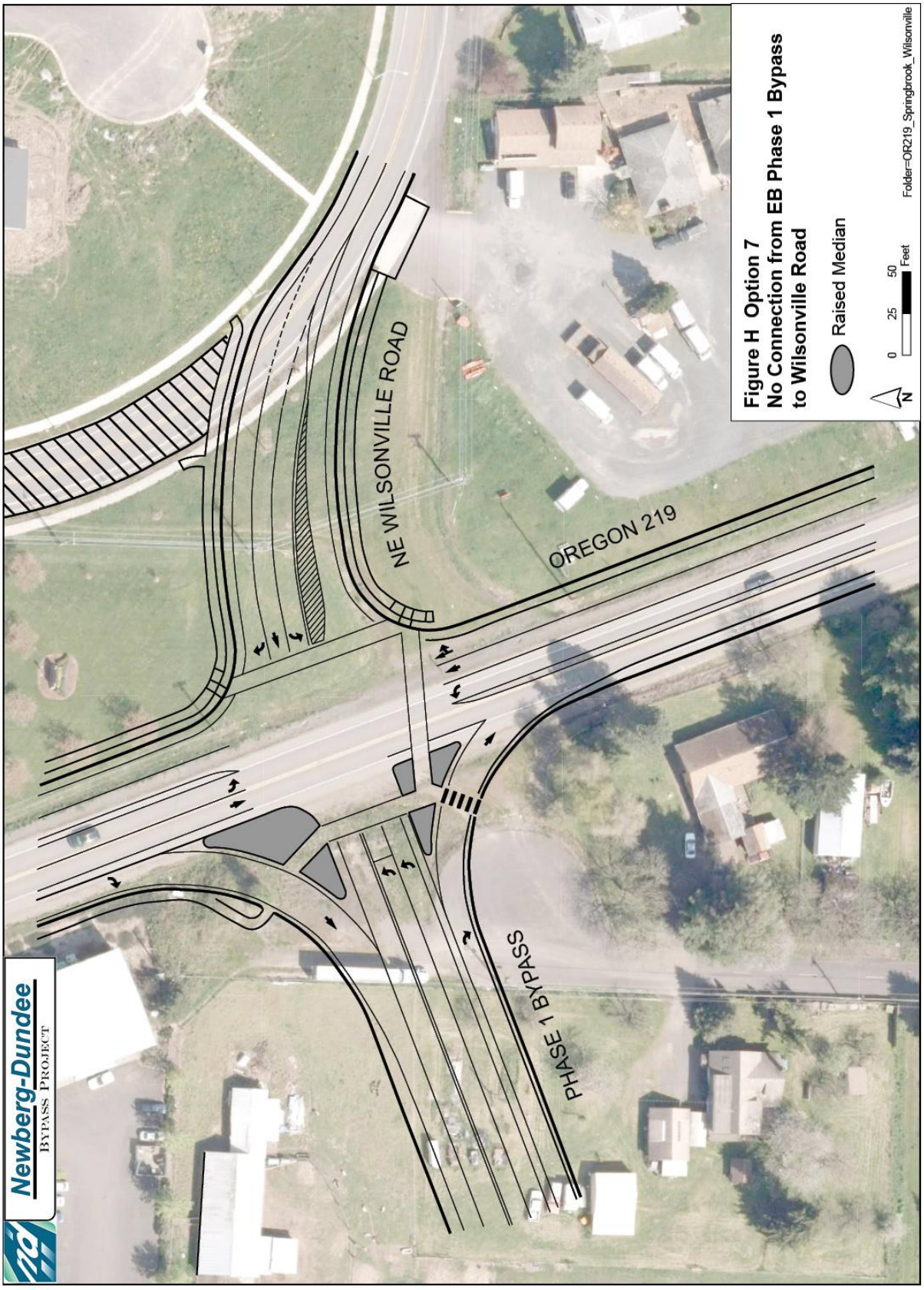
In the absence of eastbound through movements at the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection, eastbound travelers would potentially use one of a number of alternative routes to travel between the Phase 1 Bypass and Wilsonville Road. These could include:

- Travelers could turn right to head southbound on Oregon 219 and make a U-turn at a median opening or at the Oregon 219/Wynooski Road intersection. After heading northbound, the traveler could turn right onto Wilsonville Road at the Oregon 219/Phase 1 Bypass/Wilsonville Road traffic signal.
- Travelers could turn left to head northbound on Oregon 219 and make one of the following maneuvers to head southbound:
  - Make a U-turn at a median opening and turn left onto Wilsonville Road at the Oregon 219/Phase 1 Bypass/Wilsonville Road traffic signal.
  - Make a U-turn at the Oregon 219/Springbrook Road/Industrial Parkway traffic signal to head southbound on Oregon 219. The traveler can then turn left at the Oregon 219/Phase 1 Bypass/Wilsonville Road traffic signal.
  - Turn right at the Oregon 219/Springbrook Road/Industrial Parkway traffic signal and then turn right onto McKern Court (currently Wilsonville Road). The traveler could then turn left into Springbrook Estates and follow the local street system to get to Wilsonville Road. This would result in cut-through traffic in the Springbrook Estates neighborhood.
  - Turn right at the Oregon 219/Springbrook Road/Industrial Parkway traffic signal and then turn right onto Fernwood Road. The traveler could then travel past the Chehalem Glenn Golf Course and turn right onto Corral Creek Road, turn right onto Renne Road, and then turn left onto Wilsonville Road.

For the purposes of the traffic analysis, all eastbound travelers between the Phase 1 Bypass and Wilsonville Road were assumed to use the Fernwood Road/Corral Creek/Renne Road option discussed above. This option affects the most number of intersections and thereby provides a conservative analysis of impact.

Under this option, the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection would operate with a v/c ratio of 0.76. As shown in the Table 1, the operations at the remaining intersections would be similar to that experienced under Option 1. This option would require an estimated 25 vehicles per hour to use alternate routes to access Wilsonville Road from the Phase 1 Bypass, but these do not result in significant impacts to the performance of the intersections.

Option 7 may result in minor increases to the construction schedule associated with redesign of the intersection. No additional right-of-way and no additional utility relocation costs are anticipated with this option.


Newberg-Dundee
BYPASS PROJECT
NE WILSONVILLE ROAD
OREGON 219
PHASE 1 BYPASS
Figure H Option 7
No Connection from EB Phase 1 Bypass
to Wilsonville Road
Raised Median
0
25
50
Feet
N
Folder=OR219_Springbrook_Wilsonville

Option 8 – No Through Traffic

This option was developed by ODOT and LHNA in early 2015. Under this option, no direct connection would be provided between Wilsonville Road and the Phase 1 Bypass. Rather, the eastbound and westbound through movements would be prohibited at the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection. For those travelers desiring to travel between Wilsonville Road and the Phase 1 Bypass, there are a number of routes that could be used:

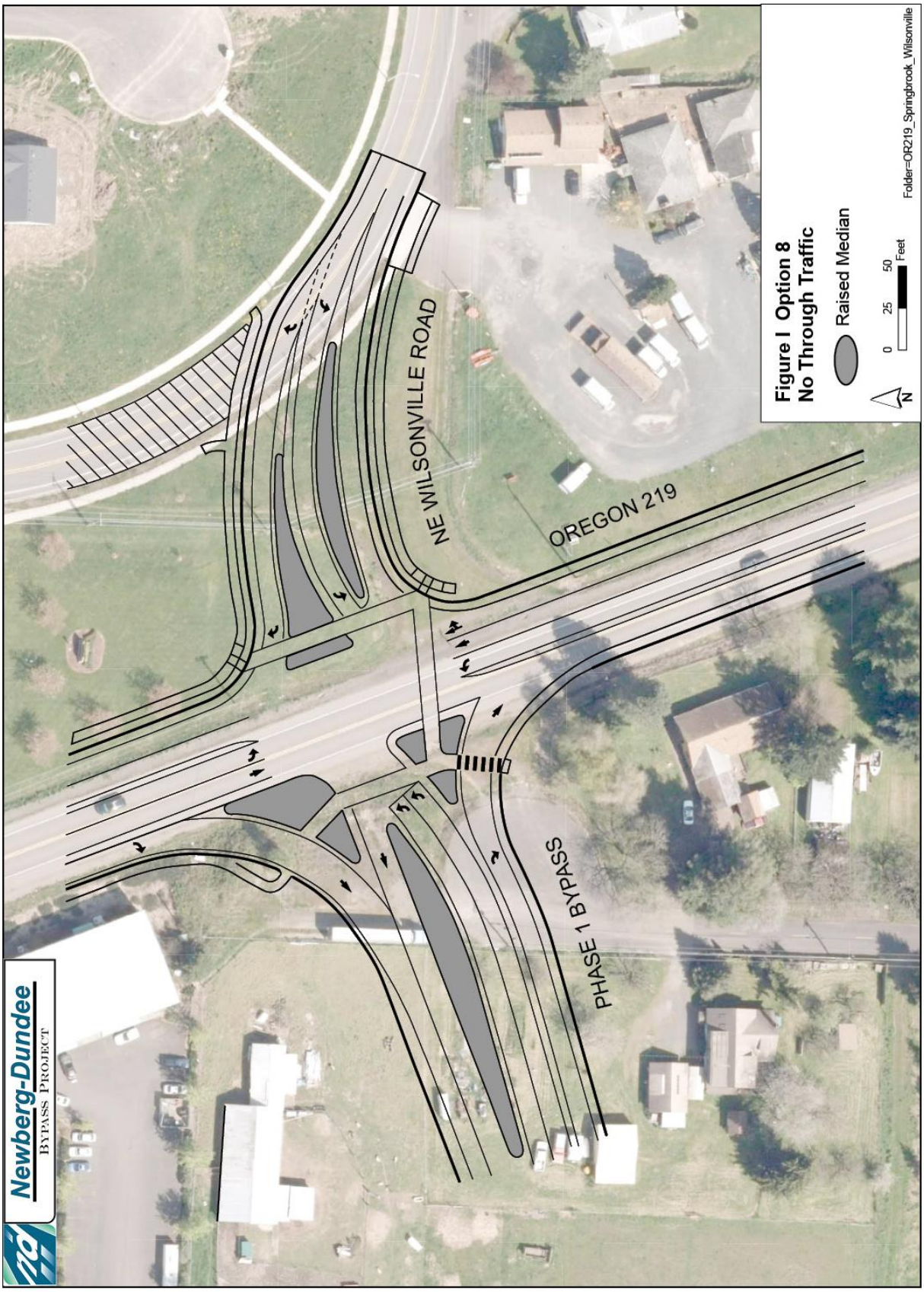
- Use a median opening to make a U-turn on Oregon 219 and then turn at the Oregon 219/Phase 1 Bypass/Wilsonville Road traffic signal.
- Make a U-turn at the Oregon 219/Springbrook Road/Industrial Parkway traffic signal and then turn at the Oregon 219/Phase 1 Bypass/Wilsonville Road traffic signal.
- Use Springbrook Road and McKern Court (currently Wilsonville Road). The traveler could then turn left into Springbrook Estates and follow the local street system to travel between Wilsonville Road and the Phase 1 Bypass. This would result in cut-through traffic in the Springbrook Estates neighborhood.
- Use Springbrook Road, Fernwood Road, Corral Creek Road, and Renne Road to travel between Wilsonville Road and Bypass.

As shown in Figure I, this option would require signalization as well as raised medians to prohibit eastbound and westbound through movements at the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection.

For the purposes of the traffic analysis, similar to Option 7, all travel between Wilsonville Road and the Phase 1 Bypass was assumed to use the Fernwood Road/Corral Creek/Renne Road route as this impacts the most number of study intersections.

Under this option, the Oregon 219/Phase 1 Bypass/Wilsonville Road intersection would operate with a v/c ratio of 0.67. As shown in the Table 1, the operations at the remaining intersections would be similar to that experienced under Option 1. This option would require an estimated 50 vehicles (25 vehicles in each direction) per hour to use alternate routes to travel between Wilsonville Road and the Phase 1 Bypass; however, these trips do not result in significant impacts to the performance of the intersections.

Option 8 may result in minor increases to the construction schedule associated with intersection redesign. No additional right-of-way and no additional utility relocation costs are anticipated with this option.


Newberg-Dundee
BYPASS PROJECT
NE WILSONVILLE ROAD
OREGON 219
PHASE 1 BYPASS
Figure I Option 8
No Through Traffic
Raised Median
0 25 50 Feet
N
Folder=OR219_Springbrook_Wilsonville

Summary of Traffic Operations

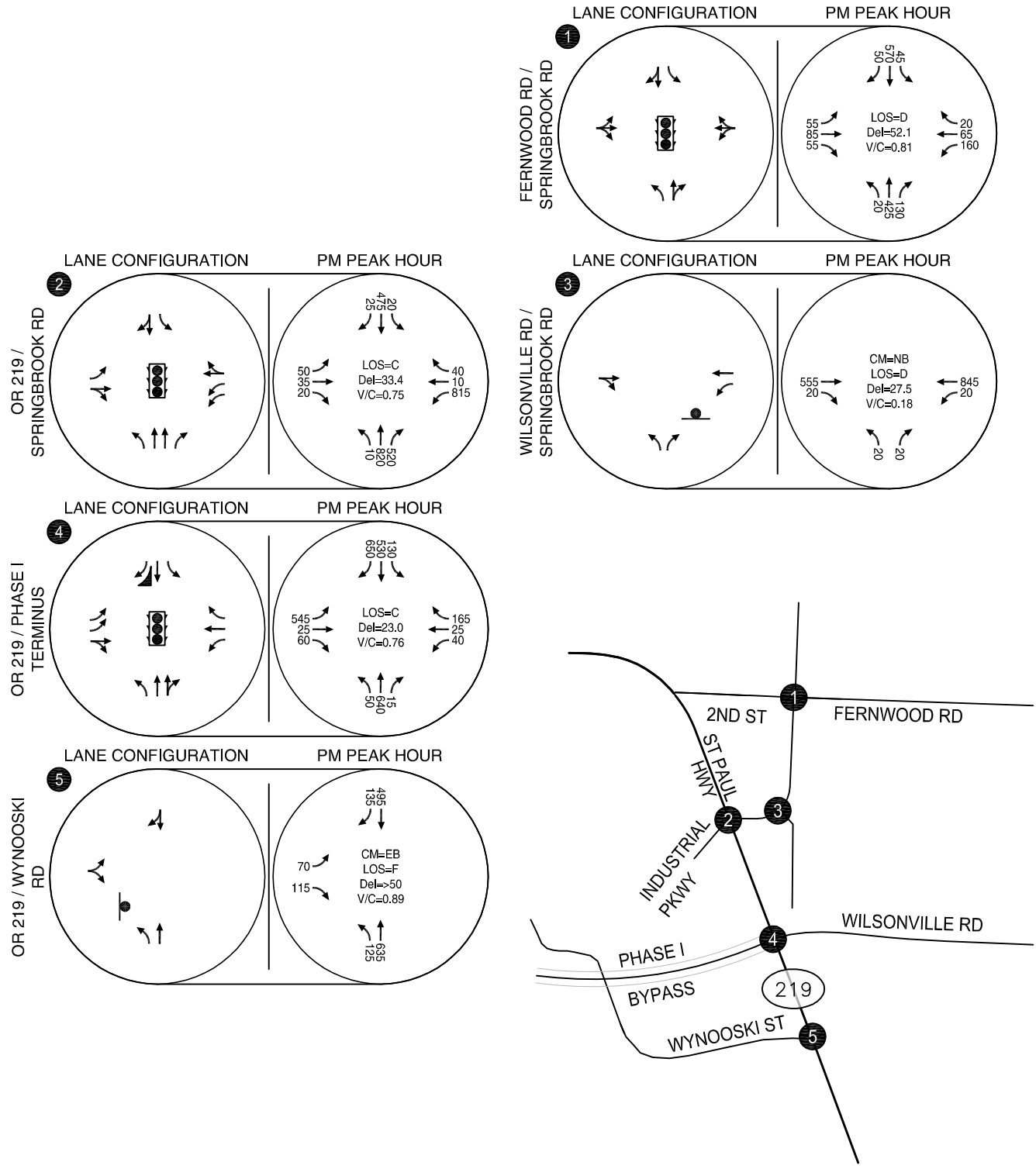
Table 1 summarizes the traffic operations at the four affected intersections associated with the design options considered.

Table 1. Opening Year of Bypass (2017) Intersection Operations

Intersection	Performance Standard	Option 1 Full Movement Intersection	Option 2 Traffic Signal at Springbrook/ Wilsonville Road Intersection	Option 3 Right In/Out at Springbrook/ Wilsonville Road Intersection	Option 4 FEIS Wilsonville Road Relocation	Option 5 Adolph Road Connection to Oregon 219	Option 6 Oregon 219 Roundabout	Option 7 No Connection from EB Phase 1 Bypass to Wilsonville Road	Option 8 No Through Traffic
OR 219/Springbrook Rd	0.80	0.75	0.71	0.75	0.75	0.75	0.75	0.75	0.76
OR 219/Bypass	0.65	0.76	0.68	0.70	0.74	0.74	0.66	0.76	0.67
OR 219/Wynooski Rd	0.80	0.89	0.89	0.89	0.93	0.58	0.89	0.89	0.89
Springbrook Rd/ Wilsonville Rd	0.90	0.18	0.68	0.63	0.18	0.18	0.18	0.19	0.20
Springbrook Rd/2nd St/ Fernwood Rd	0.90	0.78	0.78	0.85	0.78	0.78	0.78	0.79	0.81

Appendix A

Traffic Analysis Figures



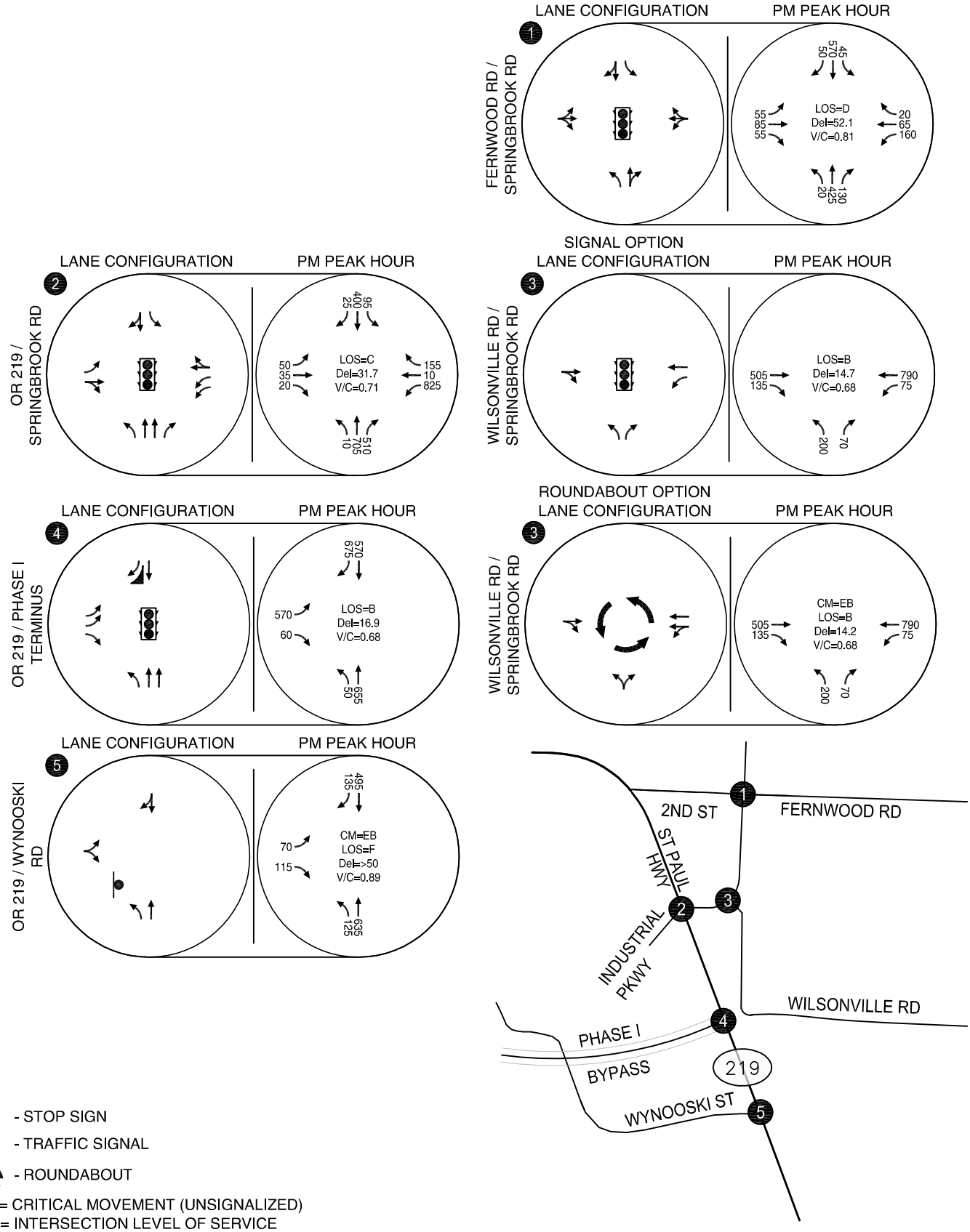
- STOP SIGN
- TRAFFIC SIGNAL

CM = CRITICAL MOVEMENT (TWSC)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED) / CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Option 1 Traffic Conditions
Year 2016 PM Peak Hour
Newberg, Oregon

Figure **1**

K:\H_Portland\profile\9372 - Newberg-Dundee Bypass\2015 August Analysis ZHB\9372_August_figs.dwg Nov 16, 2015 - 2:26pm - zbugg Layout Tab: Option 1



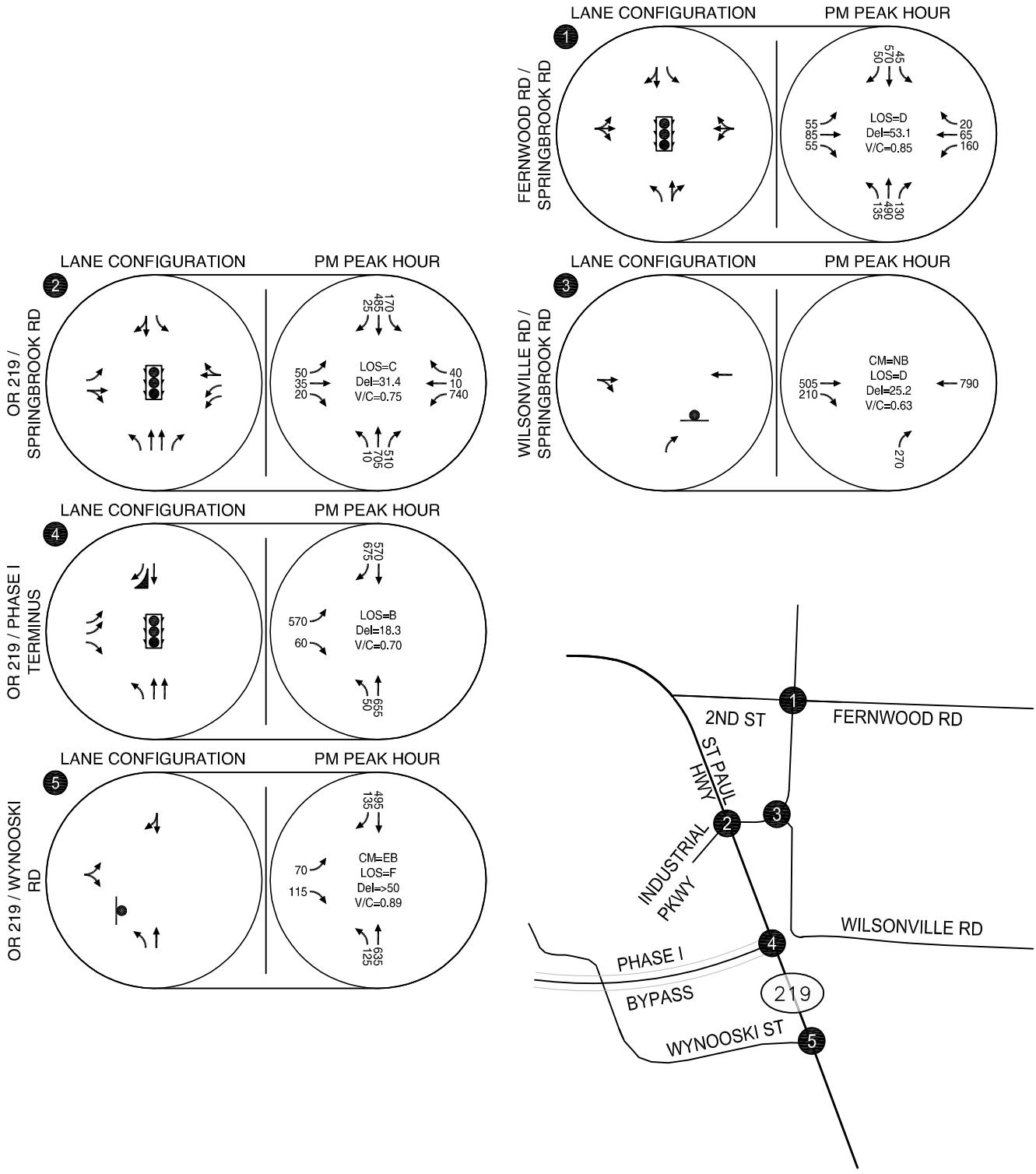
- STOP SIGN
- TRAFFIC SIGNAL
- ROUNDABOUT

CM = CRITICAL MOVEMENT (UNSIGNALIZED)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED) / CRITICAL MOVEMENT LEVEL OF SERVICE
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED) / CRITICAL MOVEMENT CONTROL DELAY
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Option 2 Traffic Conditions
Year 2016 PM Peak Hour
Newberg, Oregon

Figure **2**

K:\H_Portland\proj\file\9372 - Newberg-Dundee Bypass\2015 August Analysis ZHB\9372_August_figs.dwg Nov 16, 2015 - 2:26pm - zbugg Layout Tab: Option 2



- STOP SIGN
- TRAFFIC SIGNAL

CM = CRITICAL MOVEMENT (TWSC)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED) / CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
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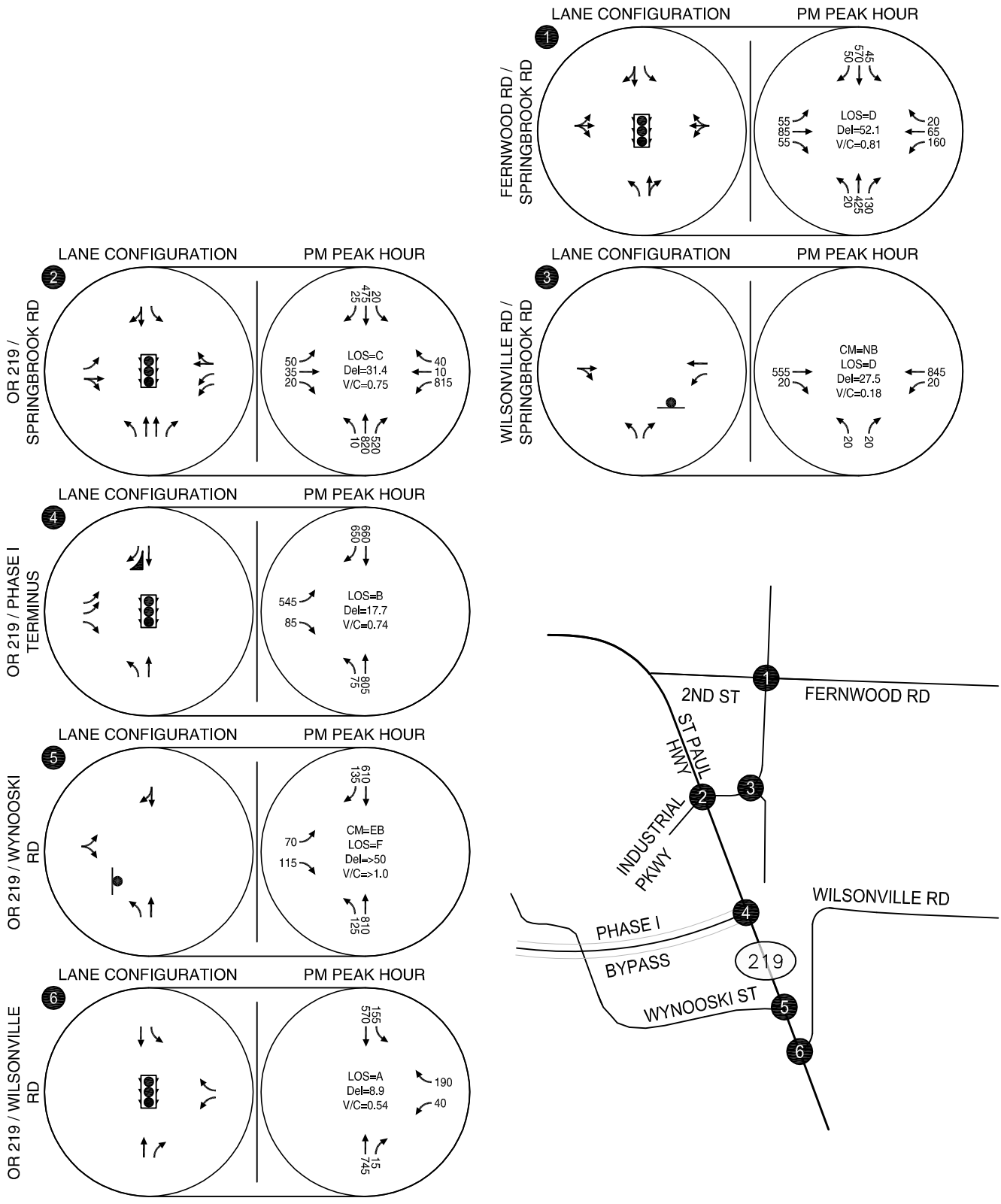
Option 3 Traffic Conditions
Year 2016 PM Peak Hour
Newberg, Oregon

Figure **3**

K:\H_Portland\proj\file\9372 - Newberg-Dundee Bypass\2015 August Analysis Z'HB\9372_August_figs.dwg Nov 16, 2015 - 2:27pm - zbugg Layout Tab: Option 3

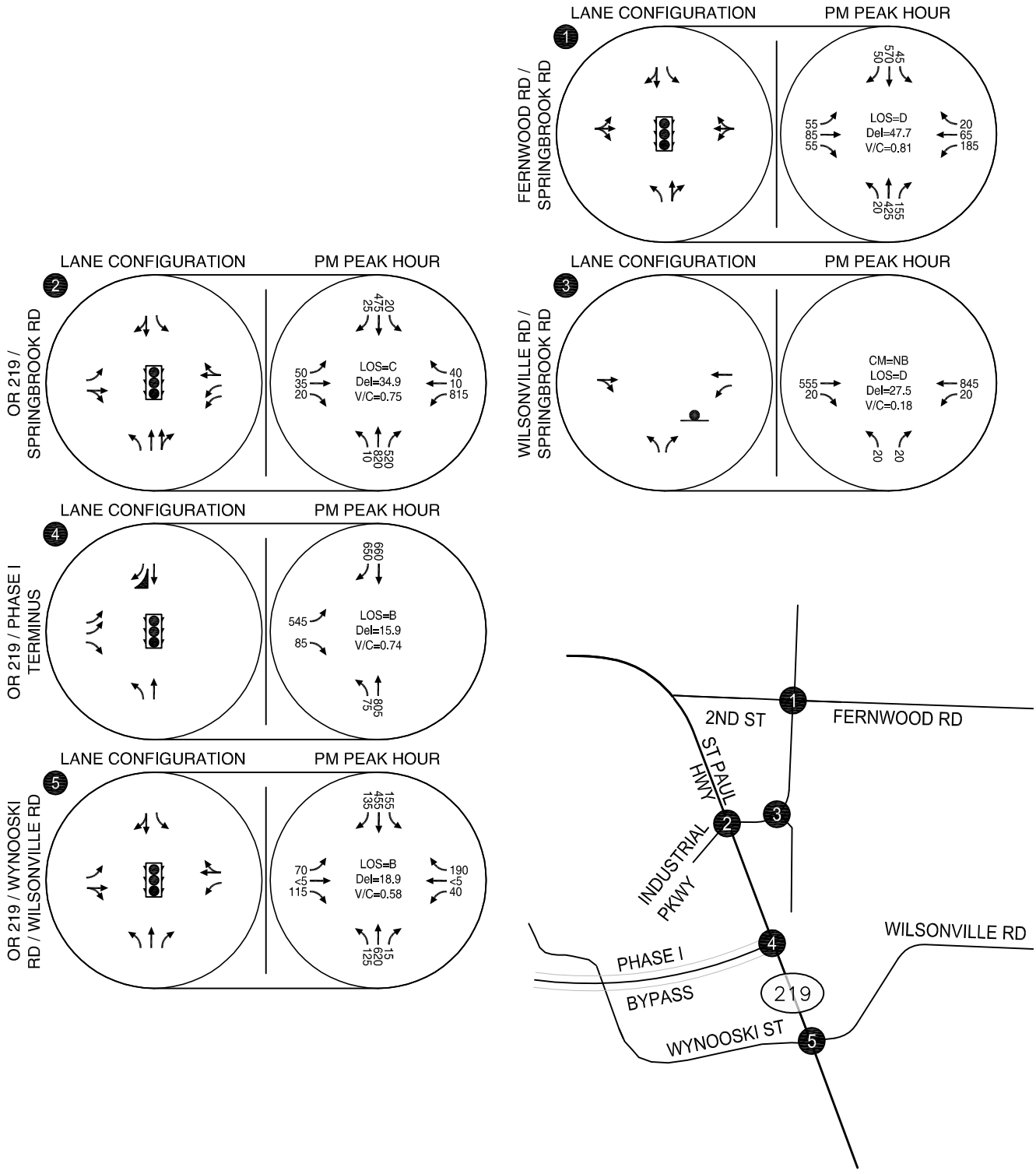


CM = CRITICAL MOVEMENT (TWSC)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED) / CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Option 4 Traffic Conditions
Year 2016 PM Peak Hour
Newberg, Oregon

Figure **4**

K:\H_Portland\proj\le\9372 - Newberg-Dundee Bypass\2015 August Analysis ZHB\9372_August_figs.dwg Nov 16, 2015 - 2:27pm - zbugg Layout Tab: Option 4



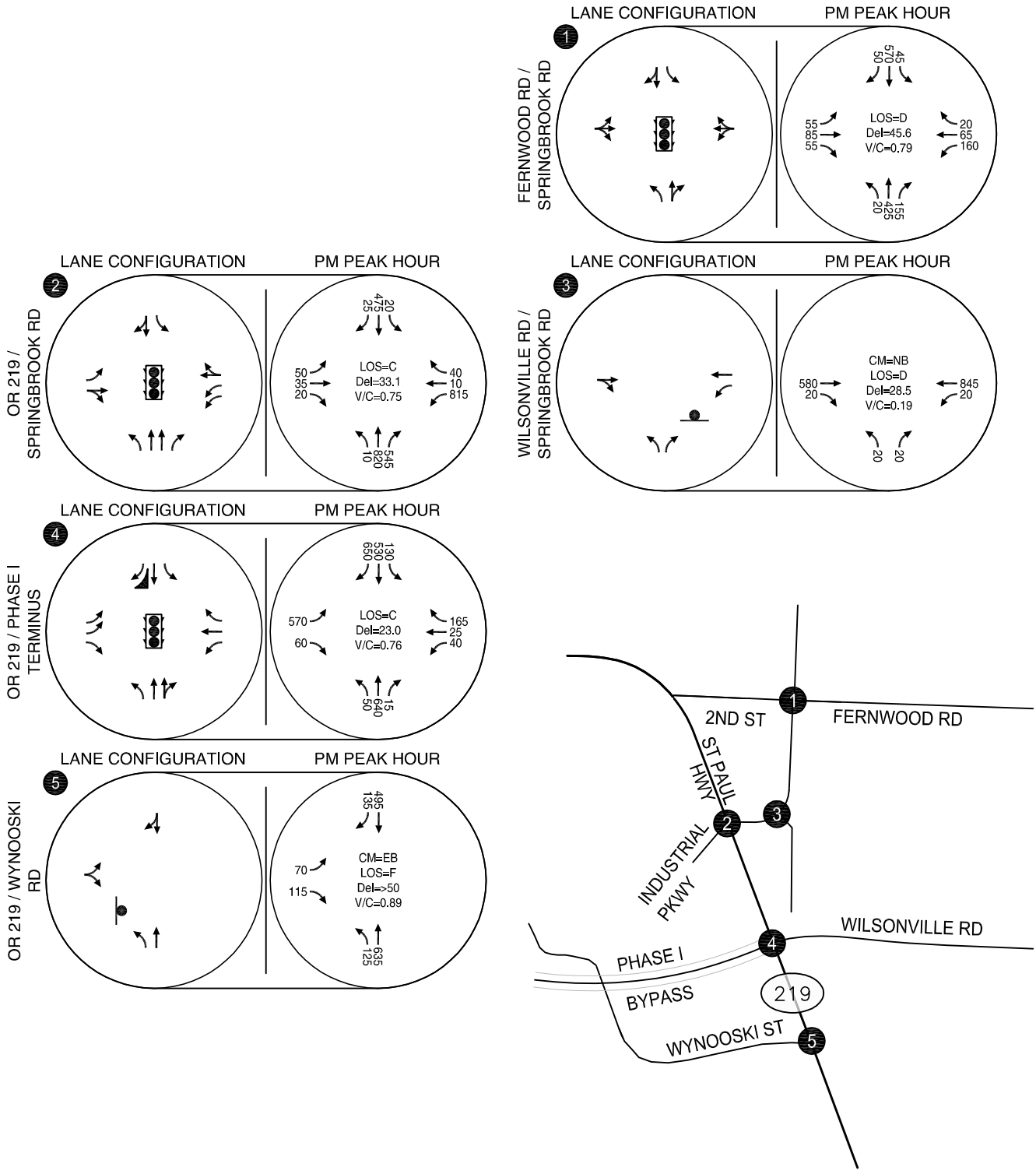
- STOP SIGN
- TRAFFIC SIGNAL

CM = CRITICAL MOVEMENT (TWSC)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED) / CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Option 5 Traffic Conditions
Year 2016 PM Peak Hour
Newberg, Oregon

Figure **5**

K:\H_Portland\proj\le\9372 - Newberg-Dundee Bypass\2015 August Analysis ZHB\9372_August_figs.dwg Nov 16, 2015 - 2:27pm - zbugg Layout Tab: Option 5



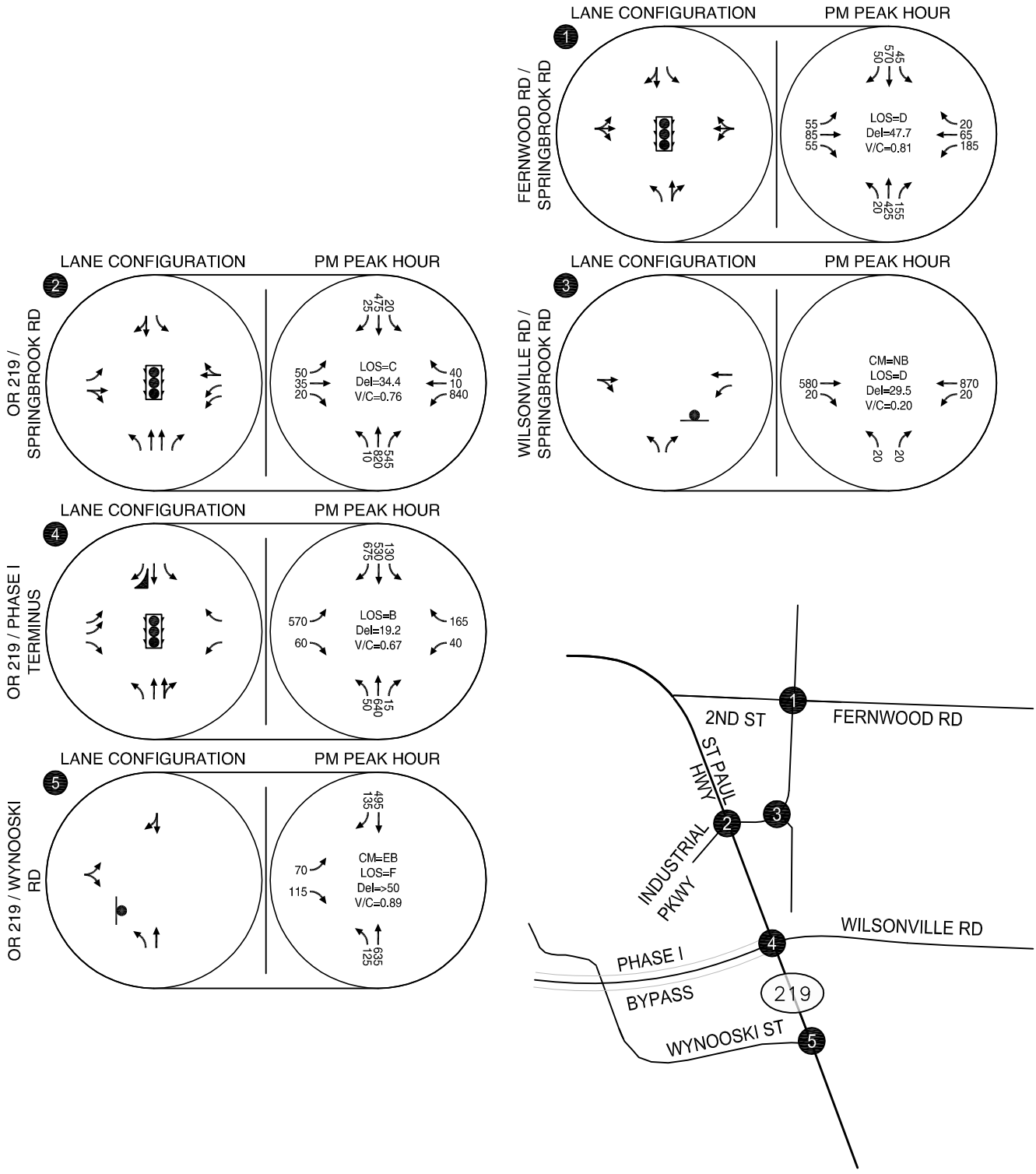
- STOP SIGN
- TRAFFIC SIGNAL

CM = CRITICAL MOVEMENT (TWSC)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED) / CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Option 7 Traffic Conditions
Year 2016 PM Peak Hour
Newberg, Oregon

Figure **7**

K:\H_Portland\profile\9372 - Newberg-Dundee Bypass\2015 August Analysis Z'HB\9372_August_figs.dwg Nov 16, 2015 - 2:27pm - zbugg Layout Tab: Option 7



- STOP SIGN
- TRAFFIC SIGNAL

CM = CRITICAL MOVEMENT (TWSC)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED) / CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Option 8 Traffic Conditions
Year 2016 PM Peak Hour
Newberg, Oregon

Figure **8**

K:\H_Portland\proj\le\9372 - Newberg-Dundee Bypass\2015 August Analysis Z'HB\9372_August_figs.dwg Nov 16, 2015 - 2:27pm - zbugg Layout Tab: Option 8